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JANUARY 1958—35¢



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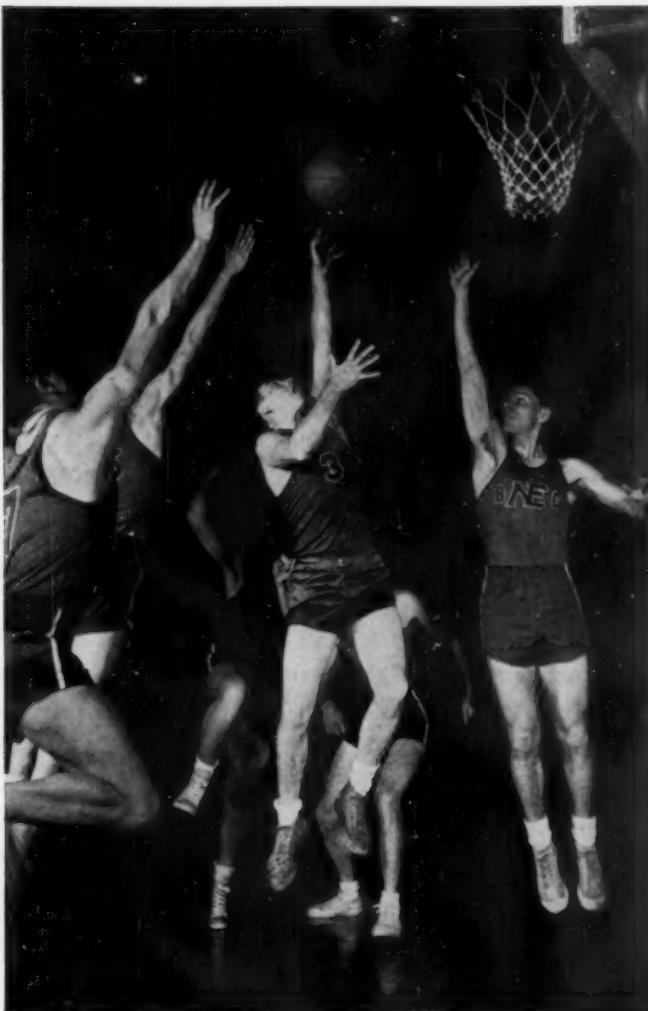
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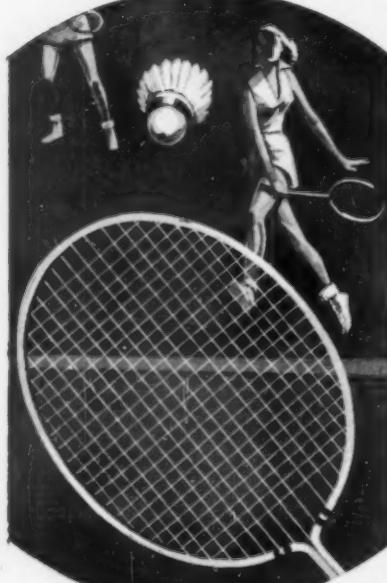
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# SCHOLASTIC COACH

Reg. U. S. Pat. Off.

VOLUME 27 • NUMBER 5 • JANUARY 1958

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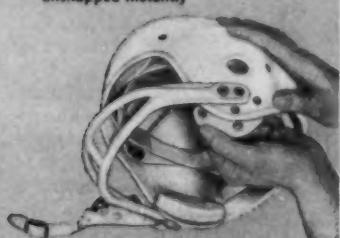
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with



Says Bill Henry, Director of the Kentucky Fair and Exposition Center, after inspecting the beautifully finished floor in his new Arena:

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H. Clyde Reaves, Executive Consultant, Kentucky Fair and Exposition Center



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# The greatest show on earth

**N**OT since the reign of the good King George (Mikan) has anyone so completely bewitched, bothered and bewildered the coaching fraternity as that stratospheric basketballistic missile, Wilt "The Stilt" Chamberlain.

For coaches who must defend his depredations in interstellar space, the 7-foot Stilt represents a "Gorgon and hydra and chimera dire." But no mere monster is he. The Brobdingnagian from Kansas is a marvelously coordinated athlete who can run, jump, shoot, and defend with all the quickness and elegance of a top-flight forward. Beautifully ambidextrous, he can spin either way and, with his fabulous reach, make every shot look like a dunk!

Hang these gifts onto an 84-inch frame, tack on a shank of courtly *savoir faire*, and daub with a mixture of spunk and sinewy strength—and you have the superman of the hardwood.

**Y**OU also have the reason why the psychiatric wards are jumping with opposing coaches. What do you do against such an awesome tower of talent? How do you defend a quick, strong, springy 7-footer who's sheer murder under the basket? How do you prevent him from scoring, clearing the boards, and otherwise despoiling your forecourt attack?

Frank McGuire, the astute coach of North Carolina, has the only sensible solution: "The most vital principle to observe in defending the super big man is to go out and get a super big man of your own!"

While McGuire has succeeded with this realistic approach to coaching life, his theory isn't exactly easy to implement. There simply aren't enough good skyscrapers to go around. And even the average good skyscraper is never tall enough or good enough to cope with the likes of Chamberlain.

The issue, then—that of wilting the Wilt—resolves itself into the intense application of coaching strategy.

To men who know their strategy best, Jack Ramsay, coach of St. Joseph's College in Philadelphia, is respected as an outstanding practitioner of the art. In his three years as head coach, the Hawks have impressed hoop egg-heads with their sound, strategic approach to the game.

**O**NE afternoon back in the spring, life became a puzzlement to this lean, quiet, dribble-and-jump professor. That was the day he learned Wilt Chamberlain & Co. were going to dribble east on December 14 to face his tigers in Philadelphia.

Actually, Chamberlain was no stranger to Ramsay. He had gaped at the big boy all during his career at Overbrook High in Philly, and he had seen Kansas twice during the 1957 NCAA tourney.

Fortified with a meticulous scouting report (the gift of Canisius College), Ramsay set about the aegean chore of preparing for Kansas. By the time the season opened, the Hawk coach was ready.

The best way of handling Wilt, he decided, was by a special hybrid defense. Soon as Kansas got the ball, St. Joseph would go into a full-court 3-1-1 zone press, doubling up on the ball all over the court. This had two purposes. First, to harass the Kansas pattern and maybe steal the ball; and, second, to force Wilt to come out and help his harassed ball-handlers.

Once Kansas advanced over the center line, St. Joe would instantly drop into a three-man zone with the other two men sandwiching Chamberlain at all times—one man in front and the other in back. That meant the three zone men would have to play four attackers all night. But this was a calculated rather than a reckless risk.

With Wilt offering such an awesome threat in a deep pivot, Kansas offered little or no threat from the outside. They simply refused to shoot, choosing instead to keep moving the ball until they could slip it in to Wilt.

So much for the defense. Alas, the offense required just as much preparation. You simply can't play your normal game against Kansas. Their defense—a man-to-man with zone principles (you may call it a switching man-to-man)—is pretty tough to crack under normal conditions. But with Wilt continually collapsing underneath, you simply can't go down the middle. He'll keep stuffing the ball down your throat.

So Ramsay conceded the middle to the defense. He decided on a three-out two-in offense, with his two big men deep on either side of the lane and his three smaller men on the outside. In the center of the outside trio would be St. Joe's best shot. His job, after working the ball with his teammates at either side, would be to cut down the middle toward the basket and then hook to the side, where the ball would be delivered for good-range one-handers.

**W**E arrived at the Palestra in Philadelphia at 7:00 P.M. Though the game was scheduled for 8:30, the crowd had already begun to show. By 7:15, the game was a complete sell-out (9,100).

We looked up Jack Ramsay, an old buddy of ours, and sat down in a corner of the end bleachers for a chat. As gracious a coach as we've ever met, Jack outlined his whole offense and defense for us.

"It's going to be real tough," he admitted. "Two years ago, even last year, I wouldn't have conceded anything to Kansas. I honestly believe we could have licked 'em. But this is a building year at St. Joe. We

(Continued on page 62)



THE RULES COMMITTEE SAID,  
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— Retains gripping surface.

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Roundhouse is arranged in split-level fashion, with three entrances to first-floor offices and with top-floor equipment

and dressing facilities on same level as athletic field to rear. Players' dormitory is shown at the left.

## An All-Purpose Athletic Center

# SOUTH CAROLINA'S “ROUNDHOUSE”

**B**ECAUSE of its unique structure, the new University of South Carolina athletic center has accumulated a frightful number of nicknames—one wag even claims it was inspired by the mythical flying saucer! Most popularly, however, it is called the “Roundhouse.”

Built at a cost upward of a quarter of a million dollars, this two-story center was designed with one goal in mind, simply that of locating all office units and facilities right next to the most utilized part of any athletic set-up—the equipment room and the meeting room.

A glance at the accompanying exterior view and the blueprints will reveal how effectively this has been accomplished. The handsome, completely circular structure makes every facility remarkably accessible.

As you walk into the building and veer left, a quick turn around the building will reveal, in order, the offices of the athletic director's secretary, the athletic director, basketball coach, publicity director, visiting coaches, conference room, laundry, home coaches' dressing room, four assistant coaches' offices, head coach, and the head coach's secretary.

In the center of the floor, around which all these units radiate, is a large, fully equipped lecture room.

The second floor is built around a huge, centrally located, beautifully stocked equipment room. This room has four windows feeding onto the

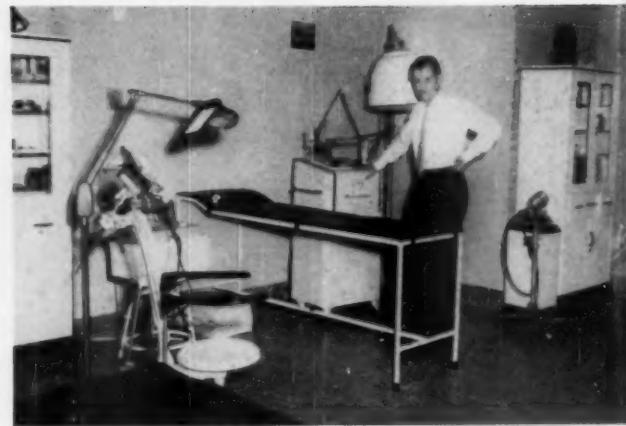
By BOB ISBELL, Sports Publicity Director

Two combination stair-ramps flank the Roundhouse. Athletes mount stairs at right to dressing rooms, then move to drill field at same level.





**LECTURE ROOM** on first floor is large and fully equipped, and the players often appear in uniform and stocking feet.



**TRAINING ROOM** is spacious, ultra-modern, and thoroughly equipped, located just off the dressing room.

varsity, freshmen, and baseball-track dressing rooms. And only a step away from these dressing quarters are modernly equipped shower stalls for each squad and a large, magnificently equipped training room.

As you may surmise, this architectural scheme was effected merely by putting the equipment room and lecture room in the center of the building and constructing everything else around them.

"Now," explains athletic director Rex Enright, "when more than one athletic phase is in operation, each can be handled with dispatch without overtaxing personnel."

"For instance," he explains, "in

the spring, when track, baseball, and football spring practice are operating at once, the trackman, the baseball man, and the football player can draw gear from different windows of the equipment room at the same time!"

"They shower and dress in separate compartments of the building, yet none is farther away from the other than a few steps."

The centrally controlled equipment room, supervised by equipment manager Walt Mackowski, is designed so as to permit speedy issue of clothing and equipment.

"If every man on the football squad stood in line ready to pick up his gear, we could hand out all of

it within 10 minutes," says Mackowski.

Practice gear is kept in individual baskets, not more than a man's reach from the window. Players call at the window, giving their uniform numbers. The same principle applies on game day, when game uniforms and equipment are taken from their respective bins, each marked with the player's number.

When the players file in from the adjoining 21-acre practice field, they enter the building via ramps that are on the same level with the dressing rooms.

While some are reporting to Herb Gulick and Charlie Saad in the training room, others turn in soiled clothing and pick up clean towels. Here at the receiving window, an equipment man deposits socks, athletic supporters, T shirts, jerseys, and pants in separate piles.

When the various squads have turned in their issue, the soiled clothing is dumped in separate loads into a 36-inch chute a few feet away.

Directly under the equipment room, attendants in the boiler and laundry room take the loads in roller-type canvas conveyors, place them in an automatic washer (capacity 75 to 100 pounds), then to an extractor, and finally to a gas dryer that can take 150 to 200 pounds of clothing at one load.

The turning-in process starts about 6:30 p.m. during football season, and the finished laundry—folded and on the tables—is completed by 10:30 or 11 p.m.

The boiler room houses a 1,000-gallon hot-water tank and a combi-



**EQUIPMENT ROOM:** Players call for gear at any of five windows, and as many as four different squads can be handled simultaneously.



**EQUIPMENT BIN:** Each man's game gear is kept in bin numbered according to his jersey numeral.

nation gas-oil furnace. Ordinarily the furnace operates on gas. But should any mechanical failure occur in the gas unit, an alternate oil unit can be put into operation immediately.

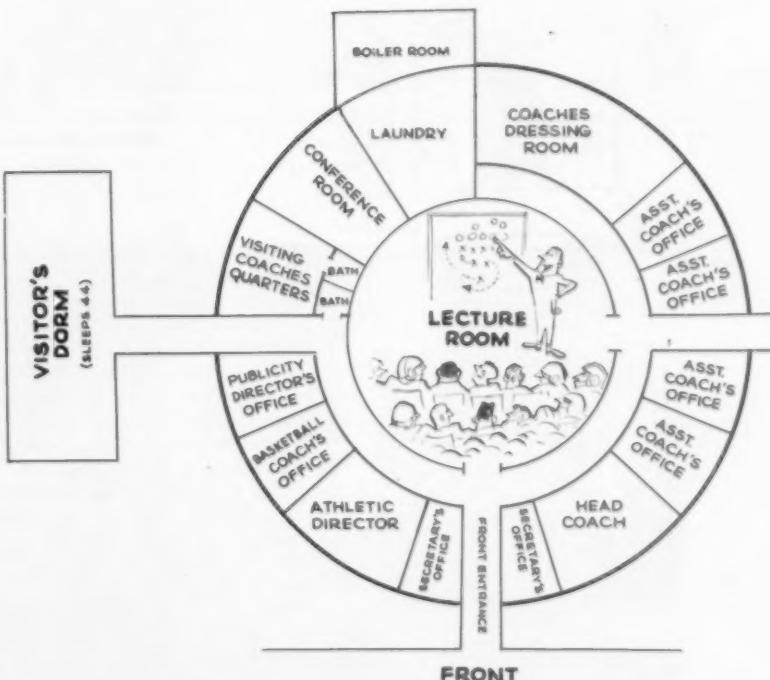
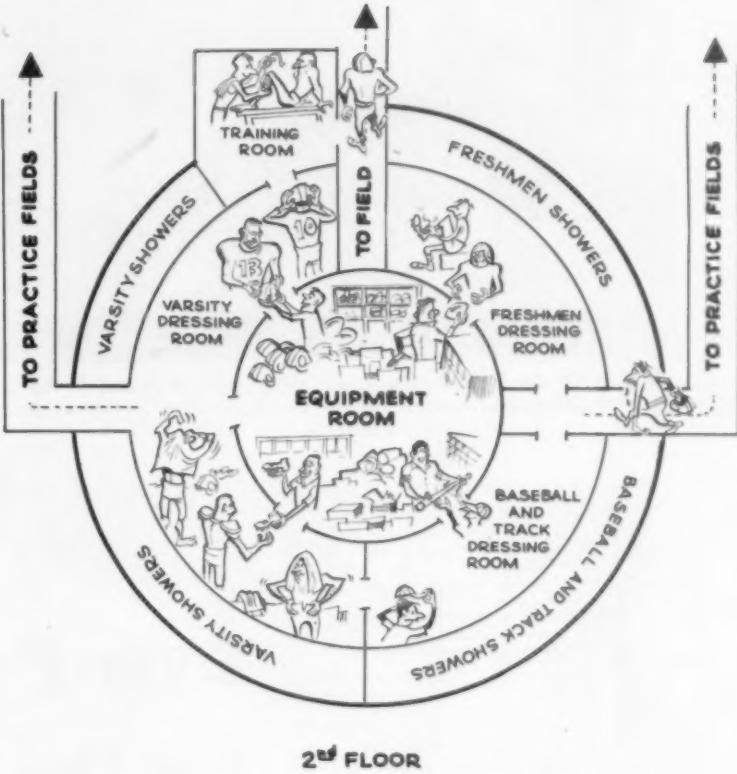
The downstairs story, as previously mentioned, provides office space for the athletic director, head football coach, head basketball coach, sports publicity director, and assistant football coaches. In addition, there are visiting coaches' quarters, smartly decorated and furnished, a coaches' conference room, coaches' dressing room, office equipment compartment, four baths, and the central conference room.

The conference room is sound-proof with a separate air-conditioning unit. Another air conditioner cools the remainder of the downstairs.

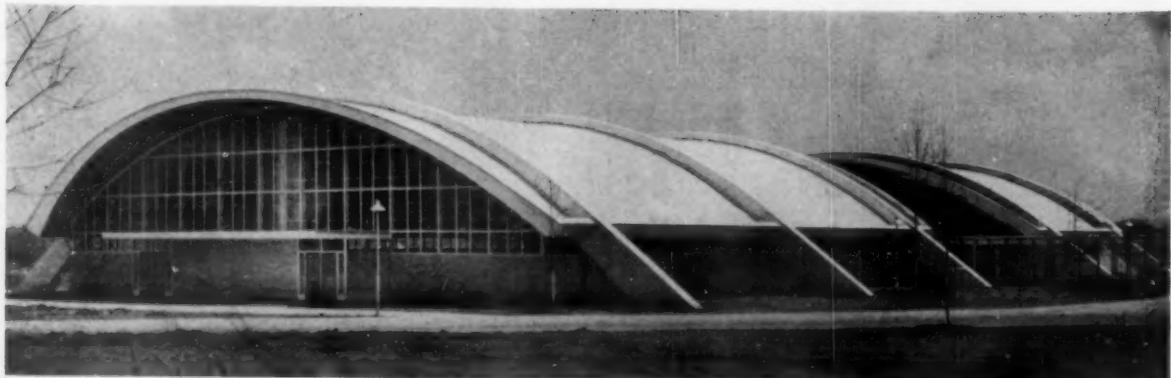
Air cooling is used for the upstairs portion; eight large fans circulate air from the outside windows through the dressing rooms and into and out of cupola windows.

Situated beside the Roundhouse is a rectangular dormitory that provides sleeping for 44 athletes. During the spring sports season, the building is used to house visitors. In the fall, its used by the gamecock football squad as sleeping quarters on nights before home games.

Asphalt parking space for approximately 150 automobiles is located to the west of the Roundhouse, and sweeping back over the 21 acres to the north are four full-length football fields, a \$25,000 running track, a baseball field (still under construction), and a future site for tennis courts.

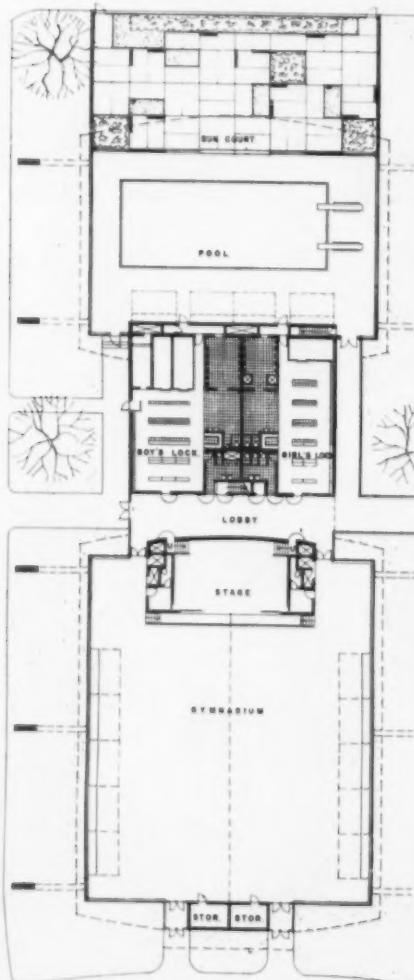


**ROUNHOUSE LAYOUT:** As you can quickly see, this unique two-story structure is built around the two most utilized parts of any athletic set-up—the lecture room (ground floor) and the equipment room (top floor). All the office units and dressing rooms radiate around these two main facilities, making each remarkably accessible to the other. Since the upper floor is on the same level as the practice fields, the athletes may, after dressing, go direct to practice via ramp-stairways on either side.



**SITE PLAN** provides for gym, locker rooms, and playfields to be in line, with a glass-enclosed corridor connecting phys-

ical ed area with other school units. Facilities are self-contained and can be operated independently.



**LAYOUT:** Functional use is the guiding theory here. Note the fine straight-line position of the various facilities, making both for easy accessibility and independent self-containment—the object in modern design.

## Gym-Pool Plant for the Junior High

By FRANK WHITNEY

*Athletic Director, Birmingham (Mich.) Public Schools*

**T**HE Derby Junior High School completed recently in Birmingham, Mich.—a small residential city of 25,000 located 15 miles north of Detroit—is considered one of the most complete units of its kind. Designed after an extensive study of community needs, its construction is predicated on the formula: Theory + Functional Use=Facilities.

The basic physical education units built for the school population of 1,000 students were: (a) gymnasium-auditorium, (b) an indoor-outdoor pool, and (c) a playfield. These facilities are self-contained and can be operated independently of other school units.

To service these areas, it was necessary to include: boys and girls locker rooms, a pool patio, open and closed storage areas, staff offices, and two hard-surfaced, lighted parking lots.

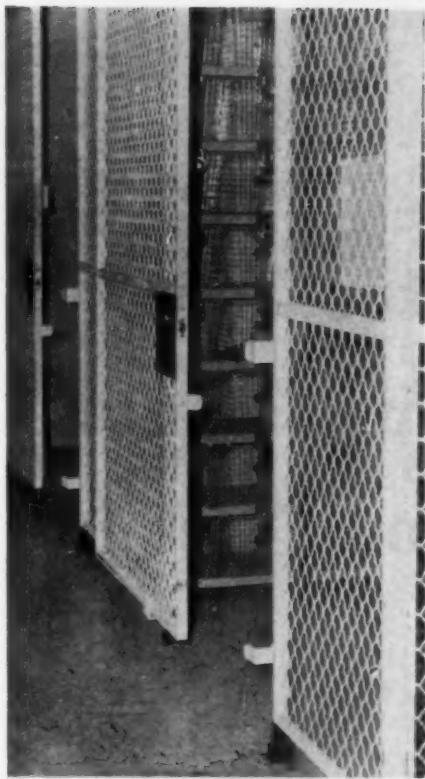
**Gymnasium-Auditorium:** Although the school was designed for the future addition of a separate auditorium, the current combination

unit interferes little with most of the physical education activities. This is because the lay-out provides an area 102' by 102' for instruction—to which the stage, 50' by 30'; two separate staff offices, 12' by 12'; two open storage sections, 25' by 25'; and the ventilation system have been added.

The activity area is clean because all equipment except six ceiling-attached basketball backboards is movable. The floor is marked for basketball, volleyball, badminton, and shuffleboard.

Open-storage equipment includes 16 plastic 5' by 10' by 2" mats, eight mounted movable basketball backboards, a trampoline, six aluminum game standards, and some heavy apparatus.

Rollaway bleachers provide the maximum usable floor space; and an electric dividing partition allows for unit separation. The divided gym and the large stage permit three teaching stations. Adjoining (Continued on page 74)



**TEAM CAGES** for visitors, containing both baskets and full-length lockers, adjoin main locker room and are adjacent to showers. Each section provides facilities for 34 persons.



**POOL ROOF** is magnificently modern in design, possessing an extremely large and desirable overhang. It's constructed of reinforced concrete, which is thought to be indestructible, and is entirely self-supporting.



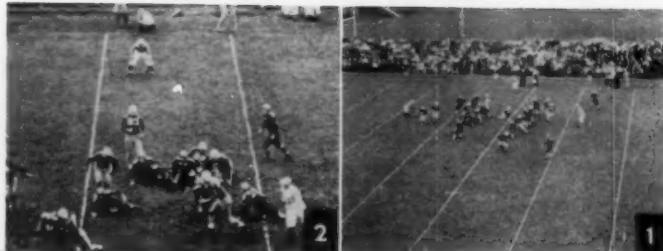
**SWIMMING POOL:** Features stacking doors, diving boards, overhead and underwater lighting, movable seating, spot-light walkway, and a patio for sun-tanning and games. Special aluminum ceiling is acoustically treated.



**GYMNASIUM:** Electric dividing door and stage provide for three teaching stations, if needed, with rollaway bleachers

allowing ample free wall space. 77 lights and two batteries of spots provide superb overhead lighting.

Shot from the same distance with four different lenses, these enlargements indicate the movie-making range of modern cameras. Picture No. 1 was shot with a 25-mm lens (about 1"); No. 2, 40-mm (about 1½"); No. 3, 63-mm (about 2½"); and No. 4, 102-mm (about 4').



## Tips from the Top on Football Game Films

**U**NQUESTIONABLY the greatest development in coaching aids over the past quarter of a century has been the universal acceptance of the motion picture. Once the plaything of the super-scientific-minded coach, game movies have evolved into priceless adjuncts of the coaching program.

The game film makes every play available for endless study. It pitilessly exposes every mistake, pinpoints every positive action, enables the coach to assay and check every individual performance. And as a scouting device, it's positively invaluable.

Its uses seem to grow with the years, and it was with this in mind that the author broached an extensive study of the college and professional fields. More than 25 of the nation's outstanding institutions were contacted for information on their film programs, and nearly all of them responded in highly gratifying fashion.

As you'd expect, there was considerable overlapping in their answers. But many precious little "nuggets" emerged. Coaches interested in enriching their movie programs should pan plenty of gold in these "diggings."

**WARREN K. GIESE** (South Carolina): I sincerely believe that the biggest coaching step forward in the last 20 years has been the use of game and practice-scrimmage films to check the coaching and teaching that has been accomplished on the field. Boys can see their own errors. This, coupled with the coach's suggestion on how to correct them, is the ultimate in coaching technique. We also use game films to analyze not only our own team and its movements, but also that of the opponents. Various studies are made and analyzed to determine the opponents' strategy, quarterbacking tendencies, strengths, and weaknesses.

**PAUL BRYANT** (Texas A & M): We consider movies the most important part of our work. We not only take movies of each regular game, but of practice sessions in the fall and spring. We grade these movies thoroughly each morning after the workout or game. We take two pictures of each game—one with the regular lens and the other in cinemascopic. The latter becomes our coaching film, while the regular film is used for civic and alumni groups. We use press box shooting only. I've tried end-zone movies, but have found them impractical in many instances.

**CHUCK TAYLOR** (Stanford): Our main purpose in using films is to analyze and evaluate the players throughout the season. After each

game, each player is studied and given a rating on his performance. During spring practice, we rely on movies to determine the success of certain plays. A certain amount of experimentation with plays goes on during spring practice, and the films are essential to determine their feasibility. Within the last two years, we've turned to cinemascopic, which gives the coach the opportunity to study the defensive backfield in particular. With stress being placed on pass defense, the wide lens is essential for studying movement of the defensive backs. For the uses I've mentioned, black and white is just as good and much less expensive than color. We often take our big game in color, but this is primarily for alumni and public consumption.

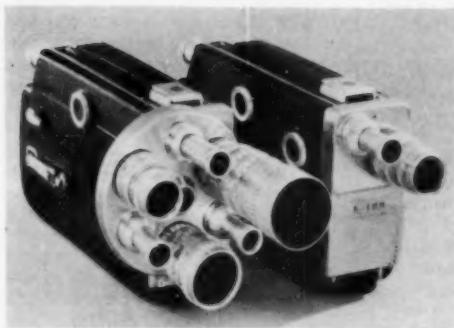
**DUFFY DAUGHERTY** (Michigan State): Probably the most important phase of film use is to get the exact spacing and play of the opponents' defenses. We feel this is invaluable in planning our offensive maneuvers. We're able to obtain quite accurately the tendencies of the quarterback and his offensive thinking from different positions on the field. We also feel that having a boy watch himself is an integral part of the film program. It isn't necessary to tell him what he's doing wrong or right—that's quite evident.

**SKIP STAHLER** (Idaho): We grade our offense to see which plays worked the best and those which didn't work so well, and check to see where our defense held up and broke down. We grade each player both offensively

By HAROLD HAINFELD and DICK FLANAGAN

Roosevelt School, Union City, N. J.

St. Peter's Prep, Jersey City, N. J.

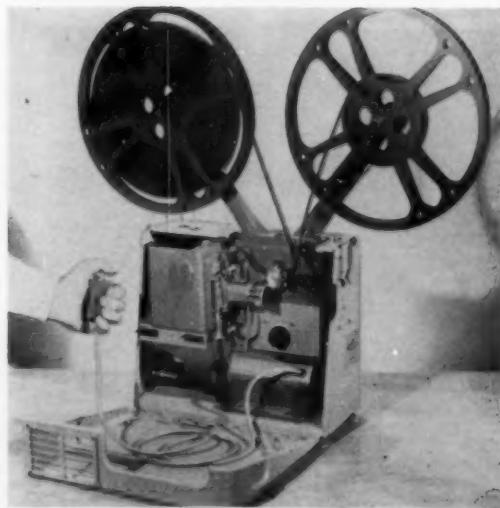


**Cine-Kodak 3-Lens Turret Camera and Single-Lens Camera:** Exposes 40' of film at one winding and takes pictures from 16 frames per sec. to 64 frames per sec. Also can take single frame exposures. May be loaded with 50' or 100' rolls of film. In Turret model (left), each of three lenses has its own viewfinder which swings into position automatically when lenses are changed. The single-lens camera (right) can be converted to a turret model.



**Bolex 3-Lens Turret Camera:** Has 100' film capacity. Ordinary spring-driven camera runs for 40 seconds at 16' per second speed, with speeds being adjustable from 8 to 64 frames per second. Camera shown in picture possesses optional motor drive using standard 6-volt battery—allowing you to shoot entire 100' of film without stopping! Unsurpassed for rapid-sequence events and situations where the camera must not be disturbed. Speeds from 8 to 32 frames per second.

## 16-mm EQUIPMENT FOR GAME MOVIES



**Victor Silent 16 Movie Projector:** Has 2000' reel capacity, allowing you to show the whole game on one reel. Speed control allows from 10 to 27 frames per second forward and 18½ frames per second in reverse. Features a 750 to 1000-watt projector bulb. For stop action, still picture may be shown without possibility of damage to the film.



**RCA High Fidelity Tape Recorder:** Natural high fidelity reproduction assured through fine 3-speaker system. Push-button controls allow for record, play, fast forward, and fast reverse. Adjusts to optimum recording speed for voice or music. Doubles as a P.A. System.



**Kodascope Analyst II Silent Projector:** Half of case becomes daylight projection viewer for analyzing films before small groups. Projects film at speeds from 5 to 24 frames per second. Comes equipped with f/1.6 lens, a 750-watt lamp, and 400' capacity reels. Machine operates on both AC and DC currents.

and defensively. We use our last year game movies to break down our opponents' offense and defense. That way we know what to expect and can be a little more prepared in meeting them. Our games are taken in black and white at 32 frames a second from the top of the press box located on the 50-yard line.

**EDDIE TEAGUE** (*The Citadel*): We grade each boy for proficiency, and rate each offensive and defensive play for effectiveness as a check on our coaching. We want our cameraman to cover every offensive man and at least the defensive line and linebackers. We don't try to get the entire field covered because we want detail at the point of attack.

**RAY ELIOT** (*Illinois*): Moving pictures are the most important avenue of help that coaches now possess. We study our films every Sunday, with each coach annotating the mistakes of his players and reviewing them with the boys on Monday—at which time the pictures are shown to the squad so that they can see their mistakes and good points. I don't know much about taking pictures, but I do know they're most essential and every coach should have them.

**JORDAN OLIVAR** (*Yale*): Upon receiving our game movies on Sunday, we immediately list all our offense plays and defenses. We compile statistical data, then scan each play and grade every individual on his performance. The next step is to show the movies to the boys in selected groups. While watching the movies, they're given a full critique of their

work in the game. After the season, we break down and analyze the opponents' offenses and defenses for use as a preliminary to scouting the following year.

**BOB ZELINKA** (*Oregon State*): Without game films, we couldn't conduct an adequate program. They (1) give the kids a better outlook on what they're doing wrong; (2) give us an idea of how an attack is functioning, what plays make the most yardage, which the least, and the reasons for it; and (3) enable us to better prepare ourselves for the oncoming year's scouting assignments. We also like to obtain the films of different high schools so that we can get a line on the better schoolboy prospects. We use our film viewer a lot. Pointing out the mistakes to the boy helps a great deal in the learning process.

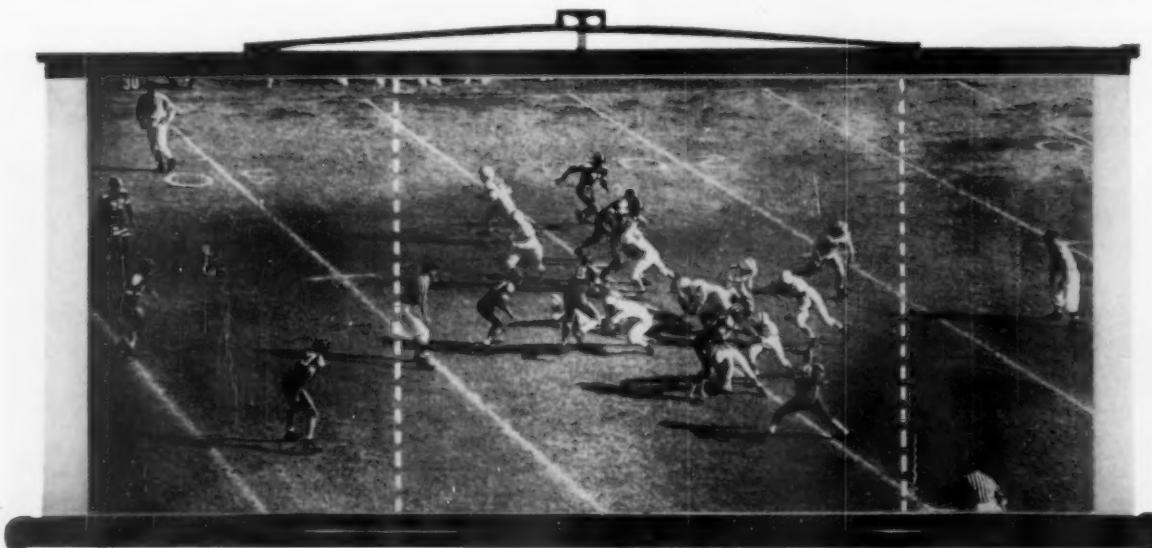
**PAUL GOVERNALI** (*San Diego State*): One item of our football budget that never gets cut is game movies. We feel the expense is well worth it, because it's an exceptional means of stimulating our players and also serves as an excellent medium of instruction. We look at our film while it's running in comparative slow-motion, using the reversing mechanism frequently. From the technical standpoint, line spacing and detailed line play is better seen as filmed from the end zone. However, for all-around purposes I believe it's best to film the game from the high sidelines. I don't believe that rating players objectively (by giving marks on each play) is necessary. It's my feeling that a coach and his staff should know the capabilities of his players and be able to

tell simply by looking at films how well they are doing.

**JOHN T. FORD** (*Arizona*): Moving pictures are an invaluable tool. We take films of every game, including our spring affair, and also of our practice sessions whenever we feel it necessary. When the game films arrive from the processors, the coaching staff immediately begins to break the picture down. The coach can determine why certain plays did not work and who failed to carry out his assignment. The coach may see a need for changing certain maneuvers or for changing the starting line-up. Once the coaches have completed their study, the picture is shown to the players. Each mistake is pointed out so that every boy can see what he's doing wrong. We also use game movies of previous years for studying our opponents. From these we're able to ascertain the opponents' blocking assignments, defensive maneuvers, and some material on returning personnel. Moving pictures are a great help in recruiting also. Since most high schools take game pictures, it's usually possible to see a boy in action before offering him a scholarship.

**PETE ELLIOTT** (*California*): Films have proved one of the greatest coaching aids developed over the past decade. We use our films for the following purposes: To grade each of our player's performance in each game and practice scrimmage; help in selection of the better athletes and let the boys see their misses for themselves; chart and study pictures of opponents from the previous year to learn details of their plans, both of

(Continued on page 83)



All the pro coaches and many of the college mentors are now shooting their games in cinemascopic. A special wide angled anamorphic lens, when attached to the telephoto lens by means of an adapter ring, squeezes more action onto the film without sacrificing brilliant close-up detail. When projected back through the anamorphic lens (which

is attached to the projector in much the same way it was attached to the camera, about 2½ times more of the horizontal game action appears on the screen! In the photo, the area between the white lines shows the range of the regular lens, while the over-all picture illustrates the range of the special anamorphic lens.



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*the Last word*

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GENUINE  
KANGEROO  
LEATHER



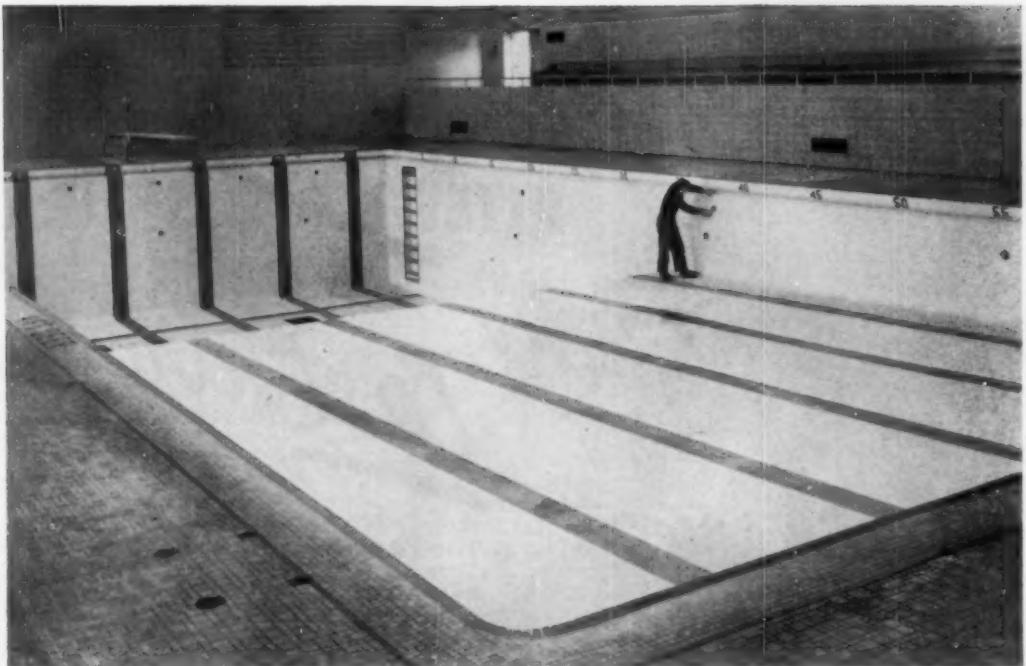
Wilson Riteweight,  
Model F9104; also available  
with standard upper. 12  
Riteweight models to choose  
from. Sized 6-13 in half sizes.  
Priced to fit all budgets.

Hugh McElhenny, star back  
of San Francisco 49ers, is  
a member of the Wilson  
Advisory Staff.

PLAN AHEAD,  
ORDER EARLY

Win With **Wilson**

Wilson Sporting Goods Co., Chicago



Pool features cleat-tread Mosaic tile at ends and a non-slip tile deck. Worker points to spot where safety rope will extend across pool, separating diving area from shallow, swim-instruction section.

## Ceramic-Tile Natatorium

**A**HANDSOME, all-ceramic Mosaic tile swimming pool, designed to combine safety with utility and attractiveness, features the new natatorium at Great Neck (N.Y.) Junior High School.

The natatorium is a separate building with a passageway connecting it to the school. It comes equipped with 120 lockers, divided equally between boys and girls, folding bleachers, and tiled shower rooms adjoining the pool.

"The locker rooms are independent of those in the existing school, are self-contained, and are conveniently located for use by the public as well as the pupils," vouchsafes Edwin F. Harper, Superintendent of Buildings and Grounds.

The regulation 75 x 36-foot pool, built according to AAU specifications, possesses such safety features as a 40-foot shallow area for swimming instruction, cleat-tread Mosaic tile at both ends for non-slip, competitive swim turns, and a non-slip Mosaic tile deck around the pool.

The 40-foot instruction area is between 3½ and 4½ feet deep, in-

creasing in depth toward the diving section. Toe-grip nosing, made of ceramic tile, appears around the pool's edge as added precaution against slipping.

"No youngster is ever over his head in the instruction area," says Harper. "And this knowledge gives him added confidence in his swimming."

The pool has six lanes, each six feet wide, and is designed for competitive swimming, instruction, or water sports. The standard width of a five-lane pool is 35 feet. By increasing the width by one foot, it was possible to obtain six lanes each six feet in width.

The depth of the pool at the diving end is 10 feet and extends to a distance of 25 feet. A safety rope separates it from the instruction area.

The spectator's gallery above and at one side of the pool features a folding bleacher stand with a 240-seating capacity, which can be moved back to the wall when not in use.

Lights with diffused lens are recessed in the sidewalls near the ceiling, the rays directed toward the

ceiling and laterally to reduce light reflection on the water. Prismatic glass windows on the building's south side, diffuse the outside light within the pool area.

"Light reflection in the water represents a mental hazard to the novice swimmer," says Reginald E. Marsh, New York architect who designed the pool. "Consequently, we paid particular attention to this phase of design."

Ceilings and structural beams are of colored, acoustical material impervious to moisture. A public address system has been installed in the natatorium, with four speakers in the ceiling over the pool.

Granitex Mosaic tile with non-skid properties is on the pool's deck, while the sides and bottom are lined with an impervious, porcelain-type ceramic Mosaic tile in "Harmonitone" colors.

Granitex-type tile is also on the floors and walls of the locker and shower rooms. 9-inch by 6-inch by ½ inch green-colored ceramic tile is set horizontally in the natatorium's walls.



# Hop, Skip and Jump on it!

and Feel the Cushioned  
**Flex of KREOLITE Gym Floors**

Here is a floor that welcomes any kind  
of action.

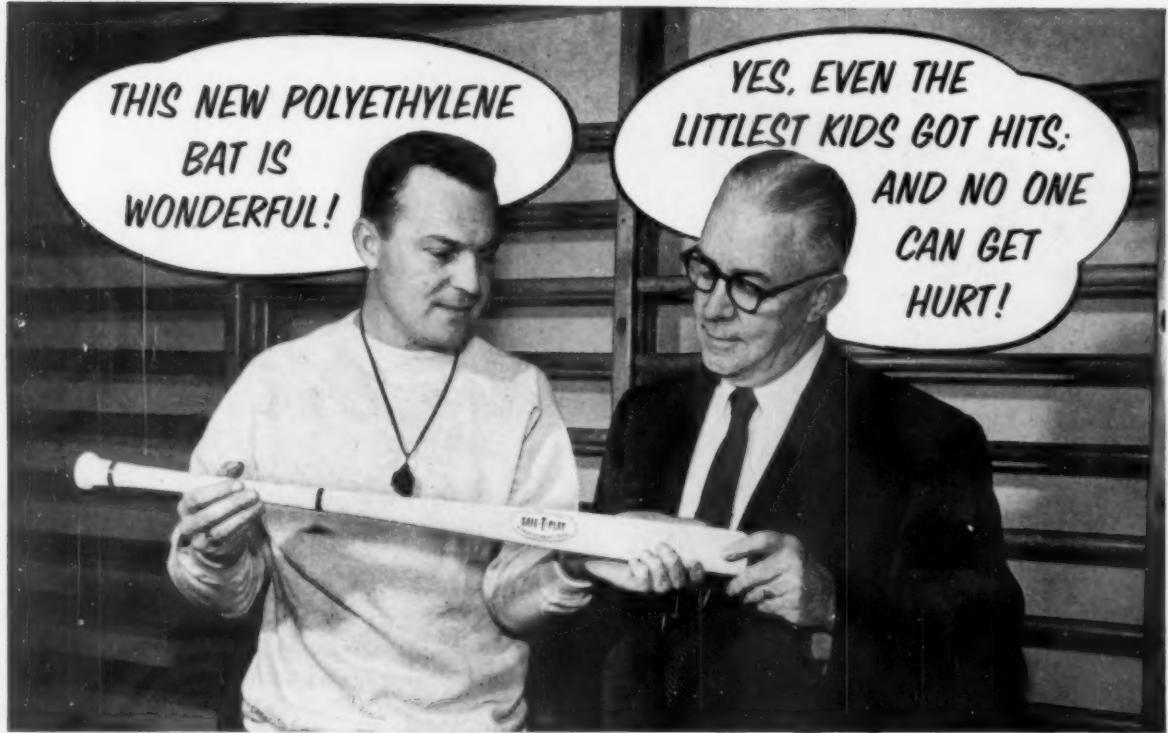
Because of its high resiliency, Kreolite  
Flexible Strip End Grain Wood Block Floors  
are actually kinder to the feet by  
lessening fatigue.

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END GRAIN FLOORING**

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CORPORATION  
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**SWING THIS Polyethylene Bat  
IN SAFETY, ANYWHERE!**

**A Real Bat; Yet So Light and Resilient No Harm Can Be Done—**  
 Only the wonderful qualities of polyethylene could make a bat like this possible; weighing substantially less than a pound yet so perfectly balanced and constructed it teaches correct batting form to even the smallest of children. The resilience and springiness of polyethylene remove the danger of using bats in confined and crowded areas. At the same time, polyethylene is so durable that this Cosom Safe-T-Bat will have as long a life, or longer, than the standard and dangerous bats of wood.

The bat is 30 inches long and of professional shape so that it accustomes the children to the use of the standard size bat they will play with later in life. At the same time, the weight is so little the bat will not fly out of children's hands.

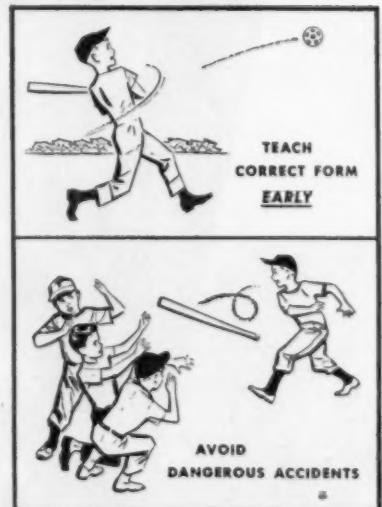
It permits and encourages young muscles to respond in correct form that builds confidence and skill and develops strength. Even a first grader will take a clean, easy cut at the ball and learn quicker to coordinate hands, wrists, arms and shoulders in a body building swing.

# COSOM



## INDUSTRIES, Inc.

6012 WAYZATA BLVD., MINNEAPOLIS 16, MINNESOTA



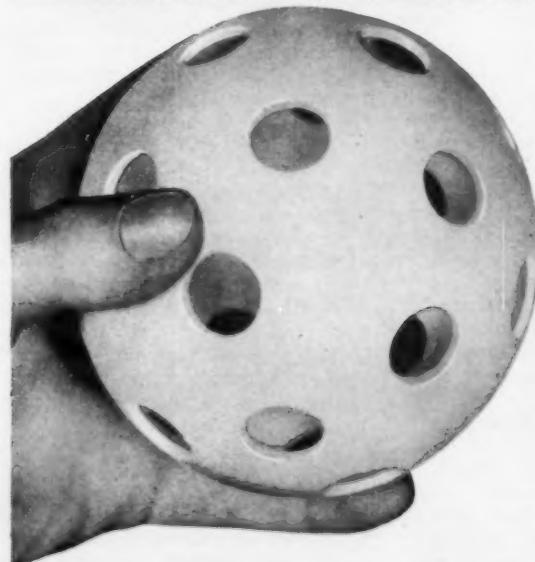
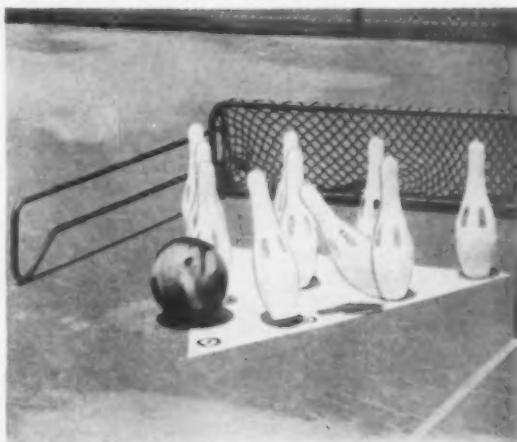
**THE BALL TO  
MATCH THE BAT**

With the Safe-T-Bat there is available both official softball and official baseball sizes of the same lightweight, resilient and long life polyethylene plastic. These balls are especially adapted and developed to be used with the Cosom Safe-T-Bat. They are true flight and short flight so they are ideal for use in crowded playgrounds and indoors as well.

# COSOM SAFE-T-PLAY PRODUCTS SOLVE MANY PROBLEMS FOR YOU!

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The Bowlite ball is hollow rubber. The Bowlite pins are light, resilient Polyethylene. Durable, safe, noiseless, they bring the country's most popular sport, bowling, into confined areas and any vacant space as little as 6 by 20 feet. Bowlite is played and scored exactly like regulation bowling; providing a perfect answer to the growing need for more recreation facilities at very little cost for teams and groups in schools, mental and veteran's hospitals, institutions, churches, YMCA's public recreation buildings and industries.



## SCOOP A NEW WORLD OF FUN!

Scoop appeals to boys, girls, men, women because it is a new, different and skill-building way to "play ball." With Scoop you can play individually in twos, in fours, in teams. Jai Alai, La Crosse, basketball, handball, soft ball, field hockey, ice hockey, water hockey, baseball . . . almost any sport played with a ball can be adapted with Scoop for safe, fast, fun-filled play indoors and in confined areas.

And Scoop is SAFE! Made of light, resilient Polyethylene . . . both ball and Scoop . . . even the smallest child cannot be harmed. Yet Scoop is amazingly tough and durable; giving endless hours of fun-packed play.

## THE PERFECT EDUCATIONAL BALL

Small children who flinch from hard, heavy balls catch and throw Fun Balls with delight. They throw the feather-light Fun Balls with the natural overhand motion that develops muscular coordination and dexterity at an early age . . . a result greatly desired by every parent, play director and child specialist.

**COSOM**

**INDUSTRIES, Inc.**

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By EDWARD J. PRELAZ

Trainer, Marshall College (Huntington, W. Va.)

## The Trainer's "WARBAG"

ONCE strictly a "rubber," the trainer today plays an exceedingly important role in the success of a team. He's a contact man between the coach and the squad; he's chiefly responsible for the conditioning program; he's responsible for the prevention and care of injuries; and he must be a skillful first-aid operative.

In game situations, first aid is of vital importance. Quick, efficient first aid may prevent an injured athlete from leaving the game permanently or prevent minor injuries from turning into serious ones.

The trainer must be thoroughly prepared for all contingencies. No matter how shrewd he is or how skillful with his hands, the trainer will be no good without the necessary tools. I'd like to elaborate on some of the essential items that should be carried in the trainer's warbag.

The common thermometer should be available in the kit, as well as in the training room and the athletes' dormitory. It can be used by the team physician at his request, or you may save him time by checking the athlete's temperature if an infection is suspected from a recent injury.

Another important item commonly carried in all kits is the eye cup with a dropper and eye-washing solution. Debris will often fall into the player's eye, particularly on a windy day, or profuse perspiration may wash dirt particles into the eye. The eyes may be washed gently with the solution to cleanse away the dirt and soothe the irritation.

Lacerations and abrasions are common injuries in contact sports, and it's important to give them immediate first-aid to prevent infection.

The use of two small plastic "squeeze" bottles is recommended for these types of injuries—one bottle filled with a liquid antiseptic

soap solution to cleanse the wound, the other bottle filled with sterile water to rinse before applying a sterile dressing and bandage. Some lacerations may need to be sutured, and the team physician should be consulted after the above first-aid.

Most trainers will agree that a "bag" is incomplete without the commonly used compression bandage. The bandage serves many purposes, such as the control of edema and hemorrhage which may occur after a sprain, contusion or strain. It may also be used to support some fractures, separations, dislocations, and as an anchor for splints.

The compression bandage ranges from two to six inches in width. The size to be used in an injury will depend entirely on the type of injury involved.

Every trainer carries certain standard first-aid equipment to help him meet any emergency on the field of play or which may be needed in the training room.

Below is a list of common articles and their uses, other than the above mentioned, for a trainer's first-aid kit. This list does not include the additional supplies found in the training room or in the trainer's extra field bag.

1. One large black leather bag or trainer's kit (size depending on the individual trainer's needs).

2. Triangular bandage—support separations, dislocations, fractures, hold sterile dressings in place.

3. Ammonia capsules—administer in case of unconsciousness or semi-conscious conditions.

4. Tourniquet—last resort to control hemorrhage.

5. Olive of cloves—for temporary relief of toothaches.

6. Sterile cotton—for applying pressure in acute nose bleeds, for washing of abrasions and lacerations.

7. Aspirin tablets—use as directed by physician.



The oral screw, a real life-saver whenever the tongue falls back against the throat, blocking the air passage.

8. Nasal spray or drops—for relief of nasal congestion.
9. Ointment for burns—consult team physician as to type and use.
10. Antibiotic ointment—consult physician as to type and use.
11. Salt tablets—aid in the prevention of heat exhaustion.
12. Tongue depressors—splints, application of ointments, inspection throat.
13. Alcohol—"rub-down" liniment, antiseptic, for cleaning instruments, including the thermometer which should be kept in solution.
14. Assorted sterile gauze pads and band-aids for dressing.
15. Roller gauze—holds dressings in place, as base for certain taping.
16. Cotton-tipped applicators—for swabbing.
17. Adhesive adherent—for protecting skin, and as a base coat for tape.
18. Powdered rosin and firm grip—prevents slipping.
19. Adhesive tape—assorted sizes.
20. Bandage scissors—with one sharp end and one blunt end, size 5 1/2"; scissors with sharp points, size 5 1/2"; tape cutter, scalpel with assorted blades, tweezers, fingernail clippers, toenail clippers, pocket knife, callus file, razor and blades, tablespoon, safety pins.

### THE ORAL SCREW

Considerable material has been presented in training books, magazines, and first-aid pamphlets, on the prevention and treatment of various types of injuries.

To the best of my knowledge,



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\*T.M. Reg. U.S. Pat. Office.



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however, one particular type of injury has never been mentioned: the case where the tongue falls back against the throat and causes a blocking of the air passage. This occurs frequently when an epileptic has a convulsion, but it can also occur from a severe blow to the jaw or face. I wish to elaborate on the latter experience, as it happened to one of our boys during a football game in October of 1955.

Dyke Six, 165-pound Marshall College halfback, received a severe blow to the jaw. His jaws became tightly locked and his tongue fell back against the throat, thus cutting off his oxygen supply.

Certain symptoms denote acute respiratory obstruction. When I approached Dyke on the field, he was lying on his back in a convulsive state. He was making a labored effort to breathe in, his head was thrown back, his eyes bulged, and his face was becoming a mottled bluish-red.

His appearance clearly indicated a breathing obstruction, most probably the tongue. When I saw his jaws so tightly locked, I knew I'd be unable to open his mouth with my hand.

At this moment, I thought of the oral screw which I had carried in my pocket for over two years. I immediately inserted it between his teeth and began applying steady and considerable pressure, at the same time revolving the screw.

I was soon able to part his teeth enough to open his mouth and reach in and bring the tongue from the throat. I held the tongue in place until the boy began to breathe easily and his color returned to normal.

### INSTRUMENTAL FINGER

I might add that the tongue was brought forth from the windpipe with the index finger. There wasn't any danger of getting the fingers bitten since the screw was between the teeth and acted as a substantial wedge. A tongue extractor could be used in this case, but in an emergency the forefinger serves as an appropriate instrument.

At this time, I'd like to stress some important points in the case of a swallowed tongue.

First, if the jaws are not completely shut, an insertion can easily be obtained with the screw.

Secondly, if there are spacings or gaps between the teeth, these will enable you to fit the screw between them, thus permitting another type of insertion.

Third, if the jaws are completely

AUTHOR Edward J. Prelaz will be remembered as the resourceful Marshall College trainer who achieved national renown one Saturday back in 1955 by saving a player's life with the aid of an oral screw—which he had been carrying around in his bag for two years without ever using. A graduate of Marshall College, with an M.A. from West Virginia U., he's a member of the National American Trainers Assn. In addition to being head trainer at his alma mater, he is head wrestling coach and assistant football coach.

locked and the aforementioned techniques cannot be utilized, then check for an overlapping of the upper teeth beyond the lower. Sometimes, there's enough overlap to enable you to fit the end of the screw underneath the upper teeth and attempt to pry the teeth open enough to permit the screw to be used in the normal method.

### CONE-SHAPED OBJECT

The oral screw is a miniature cone-shaped object about  $2\frac{1}{4}$  inches in length. It's grooved and spiraled and works on the same principle as the wood screw. It's made of either hard wood or rubber.

A small and inexpensive item, it can easily be carried in the pocket at all times. It was used extensively by the army during the war as an emergency item when jaws had to be forced open. The oral screw is only an emergency instrument and has no other use except for forcing open the jaw when it's clamped and cannot be pried open in any other manner.

A respiratory obstruction must be relieved immediately and must be followed by artificial respiration if there's a cessation of breathing or if breathing is so irregular and shallow as to be ineffective. Physical shock may accompany such a case and must be treated accordingly.

Some trainers, coaches, and physical education instructors are familiar with the oral screw, but many others are not. I hope I've impressed those unfamiliar with it with its importance, especially when conducting group activities.

This type of incident doesn't occur often, but there's always that possibility. Being forewarned should mean being forearmed: Put an oral screw into your bag immediately. It may save a life. It did at Marshall College.

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*(laundering after laundering)*

**Only Bike Supporters are made with 4T-280® Heat-Resistant Rubber  
to keep their stretch in the laundry . . . season after season!**



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**OLD-STYLE SUPPORTER LOSES ITS FIT after just a few trips through the laundry. Made of ordinary rubber, it won't stand up . . . won't give proper support and protection. Not Bike. Bike lasts and lasts, and keeps its fit.**

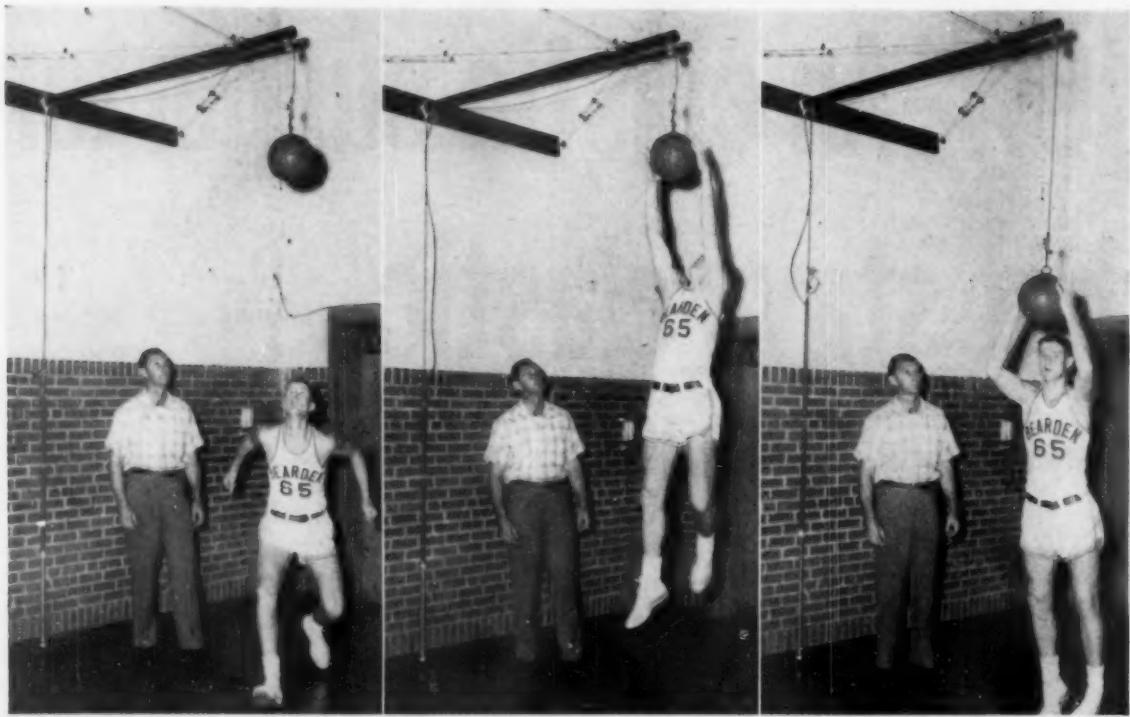
### Quality Comparison Chart

7 Quality Features	BIKE Supporter	Supporter A	Supporter B
KEEPS ITS STRETCH after laundry drying	YES	NO	NO
LONG-STRETCH ELASTIC to pull on over hips	YES	NO	NO
3-INCH WAISTBAND† for better anchorage	YES	YES	NO
FULL-WAISTBAND STRETCH for gentle support of pouch	YES	NO	NO
FULL-LEGGSTRAP STRETCH won't compress pouch	YES	NO	NO
FULL-POUCH STRETCH to eliminate discomfort	YES	NO	NO
COMPLETE LINE of supporters for all athletic needs	YES	NO	NO

†Bike makes the 2½" waistband All-Nylon supporter. Also, models with wider 6" waistbands for cases where extra back and abdominal support is needed.

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*Upsa daisy! The player leaps, latches firmly onto the ball (dangling from the end of a pulley adjusted to his particular height), and brings it to the floor. If he fails to grab securely, he'll return to floor empty-handed.*

## Tension Machine for Developing Sure-Fingered Rebounders

**A**GADGET that looks like a fugitive from one of Rube Goldberg's cartoons is helping Coach Ralph Patterson develop sure-fingered rebounders at Bearden High School in Knoxville, Tenn.

Despite its peculiar design, this so-called tension rebound machine seems to make sense. At least it has the endorsement of its inventor, Patterson, and such sound basketball technicians as coaches Emmett Lowery of Tennessee and Paul McBrayer of Eastern Kentucky.

Leaving out the engineering principles involved, here's how the gadget works:

A basketball dangles from the end of a pulley, at a height that can be adjusted to fit the particular player.

At the other end of the pulley, a series of springs produces tension and provides resistance to prevent the ball from being pulled down easily. The athlete jumps for the ball and must latch on to it firmly in order to bring it down.

If the player paws for the ball but fails to grab it securely, he'll return to the floor an empty-handed but wiser ball player. Wiser in the sense that he has done an inadequate job of rebounding. He'll know that in a real game somebody with a more tenacious grip would have wound up in possession of the ball.

Patterson, who has a patent pending on the weird contraption, sends his charges against the machine on an average of 10 minutes per day

each. Lowery gave his Tennessee Vols a try at it and pronounced it a fine instrument for producing better rebounding.

"What I like about it mainly," he said, "is that it gives the boys a challenge and an incentive in learning to jump. They can have some fun at the same time they're learning something valuable about the game."

Patterson occasionally is asked to rig up the mechanical outfit for one of his coaching colleagues. One of the most prominent tutors who uses the machine regularly is Eastern Kentucky's highly-successful Paul McBrayer, for whom Patterson once was an assistant.

"I guess that old saying about necessity being the mother of invention explains the origin of this machine," Patterson said. "When I was coaching at Lee County (Ky.) High School in 1949, I noticed we were reaching a lot of rebounds but losing them before we could get possession.

"I went home after a loss one night and couldn't go to sleep. About 3 o'clock the idea for this machine came to me. I wrote down the specifications, took them to McBrayer at Eastern Kentucky, and was gratified when he said, he liked the idea."

Since then, at every place he's coached, Patterson has used his mechanical marvel.

By HAYWOOD HARRIS, Sports Dept., Knoxville (Tenn.) Journal



*the long run*

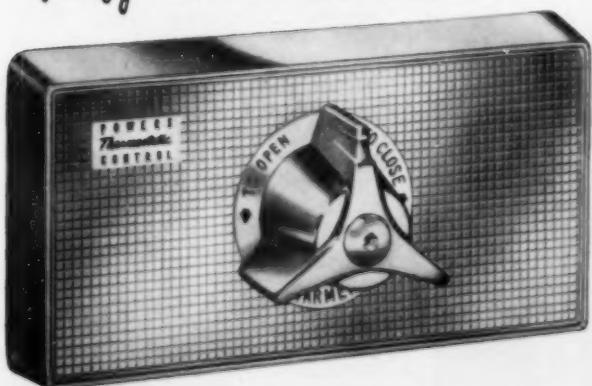
**TO THE SHOWER  
MARKS THE END OF PRACTICE**

*...be sure it's*

## **A SAFE SHOWER!**

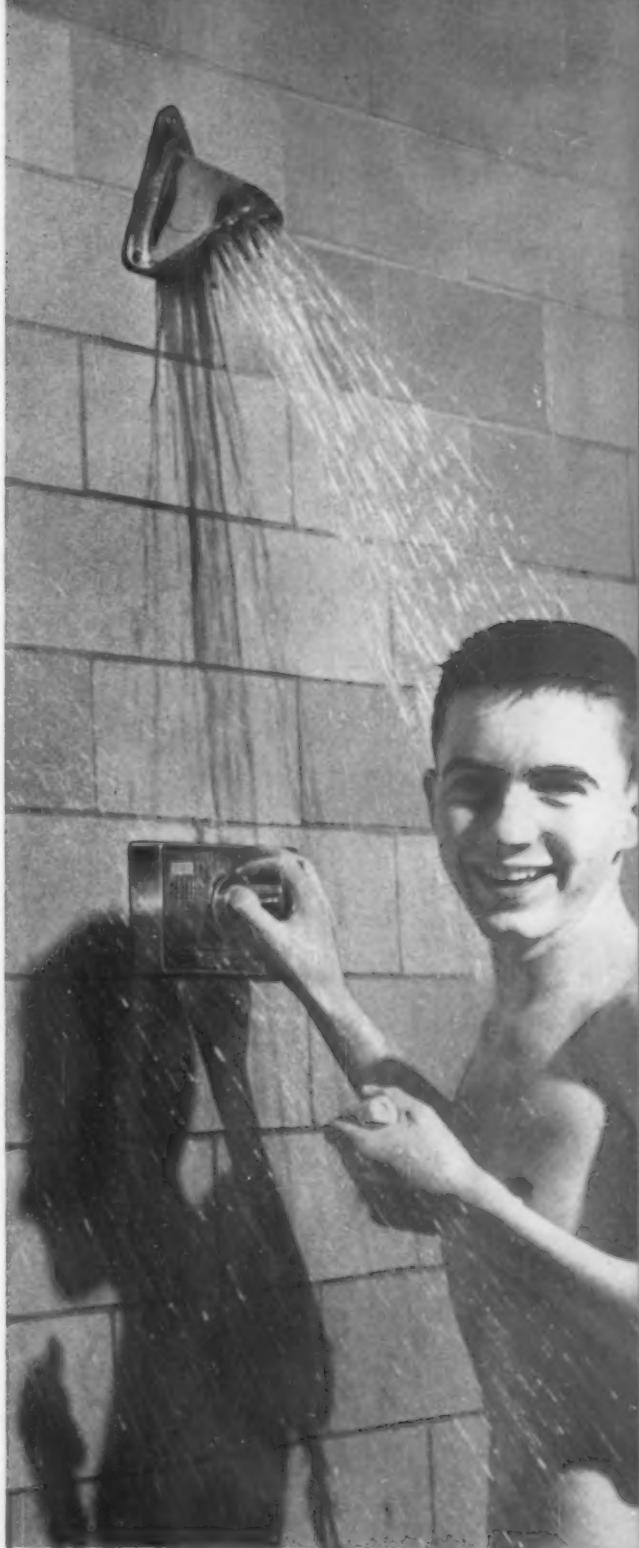
Protect students from sudden shots of hot or icy water that cause discomfort or possible injury—with Hydroguard! Hydroguard is the *thermostatic*, individual shower control that holds water temperature constant, regardless of fluctuations in the temperature or pressure of the water supply. Single dial permits a student to select any comfortable temperature quickly and easily. Hydroguard cannot deliver scalding water, even when the dial is turned all the way to "hot." What's more, if the cold line fails, hot water shuts off instantly, automatically. Specify SAFETY in all your showers . . .

*Specify HYDROGUARD®*



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# The Tape Recorder as a Football Coaching Aid

By HAROLD HAINFELD and DICK FLANAGAN  
*Roosevelt School, Union City, N. J.*

*St. Peter's Prep, Jersey City, N. J.*

"THANK heaven for the Dodgers," is the way our director of athletics, Rev. Edward Snyder, S.J., expressed it. He was referring to the Brooklyn Dodgers playing seven regular season games and one exhibition at Roosevelt Stadium, Jersey City, during the 1956 baseball season.

This site is used as the home football field of St. Peter's Prep and the four public high schools of Jersey City; and with the introduction of major league baseball, certain improvements in the stadium's facilities had to be made by city officials. This included expanding the

press box (on the roof) to provide additional space for more reporters and for radio and television broadcasting equipment.

One room, used by the TV camera covering home plate, was converted into a football booth for our cameraman (Hainfeld) and our spotters with telephone communications to the bench. (Flanagan and two freshmen coaches.) The additional electrical outlets also made it possible to install an additional aid to our coaching program—the tape recorder.

The recorder is placed on a table in front of the booth and is operated

*St. Peter's assistant coaches spotting a game at Roosevelt Stadium, Jersey City.*

by a student manager, while the non-directional microphone is positioned in front of the chief spotter alongside the microphone of the field telephones to the bench. Its position also enables the freshmen coaches and the movie cameraman to make comments.

The student manager is responsible for the operation of the recorder, stopping and starting it on cue from the spotter. He also checks the volume indicator bulb to make certain that the speaker's voice is recorded.

We record at  $3\frac{1}{2}$  inches rather than the conventional 7 inches per second. This slower speed, while giving adequate frequency response, permits the recorded comments and the complete evaluation of the game on one 5-inch reel of tape.

At St. Peter's, the tape recorder has proved a valuable aid to the football coaching staff and squad. Some of the following suggested uses can prove helpful to both the individual and multiple-type coaching staff.

The recorder makes it possible for the spotters to give their complete attention to the game action. Where your spotters are forced to write down information, much of this action may be missed. The tape recorder thus makes it possible to glean more facts during the time of the game.

The recording is started as our opponents begin their warm-up drills. The date, name of opponent, wind direction and approximate velocity, sky conditions, and names of officials are recorded; and scouting reports are checked to verify the numbers worn by the opposing starters.



*The St. Peter's Prep head coach, Bill Cochrane, employing the tape recorder to develop a uniform cadence count among his three quarterbacks.*

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## LOUISVILLE SLUGGER BATS

H & B is proud to announce the addition of the authentic personal models of Gil McDougald, Hank Aaron and Roy Sievers to the autographed No. 125 Louisville Slugger "blue ribbon" assortment. Remember in Softball, too, Louisville Sluggers are first choice with nineteen splendid softball bat models.

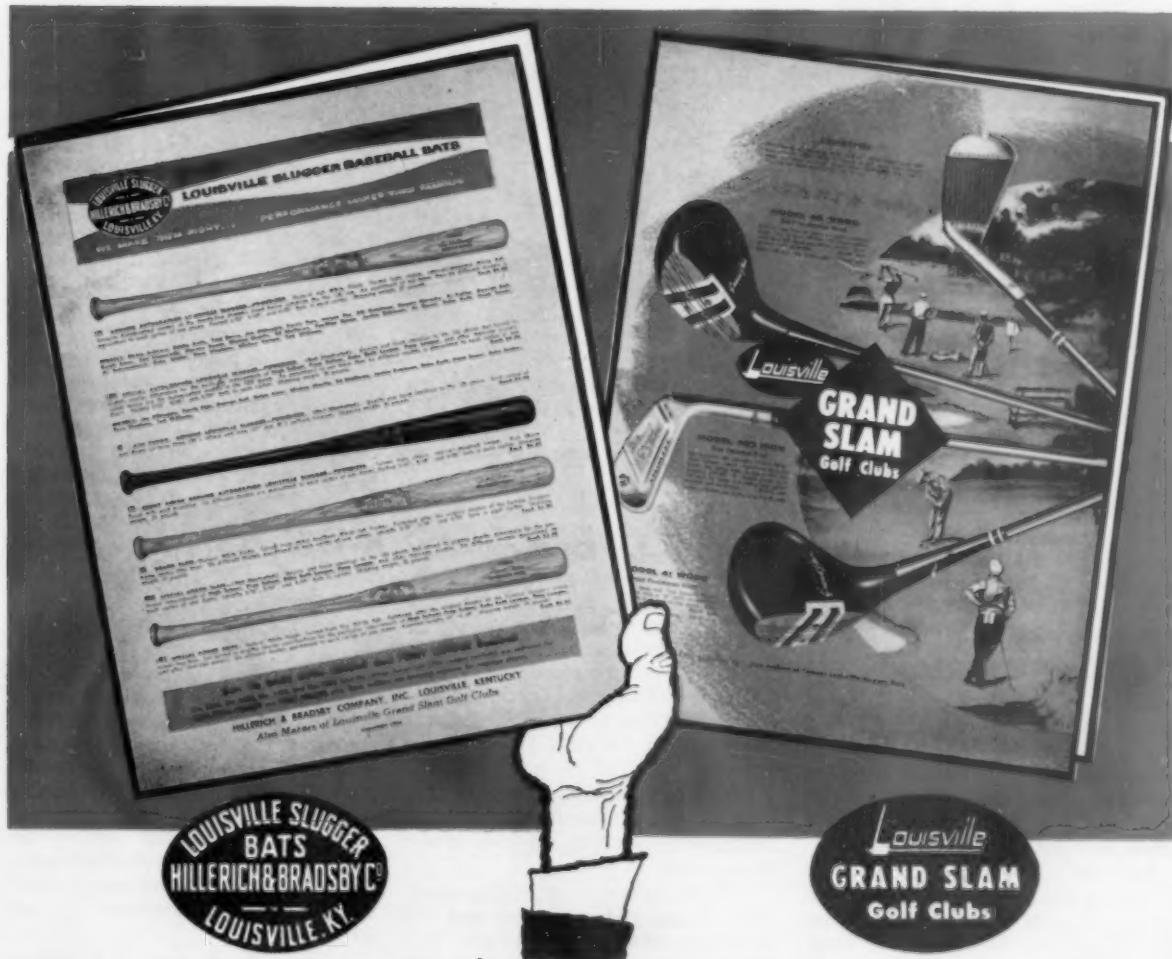
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Both catalogs are beautifully produced in full color and contain complete information on both of these famous lines of athletic equipment. Order your supply today. Write Dept. SC-8.

**Hillerich & Bradsby Co., Inc., Louisville, Kentucky**



Who won the toss, choice of goal, and which team is to kick off in what direction is recorded as part of the pregame information. And close tabs are kept on the performance of the specialists—kickers and passers. We record the distance and angle of the kicks and the quirks of the punters, passers, kickoff men, and extra-point kickers.

Head coach Bill Cochrane calls the offensive plays from the bench, but the quarterback has the option of changing the call if the defense shifts or changes after the team lines up on the ball after the huddle. As the play-carrier (usually a guard or tackle) takes the play out to the quarterback, this call is sent to the spotter on the roof. There are also times when the play is called from the roof and relayed to the bench who then sends it out to the quarterback.

#### PLAY NUMBER IS RECORDED

This play number is recorded on tape. As the play is being run off, freshmen coaches (Dick Pascal and John Donnelly) and Flanagan have their assignments. Pascal evaluates the left side of the line, starting with the LE, LT, LG, and C, while Donnelly rates the RG, RT, and RE. He has one less player, since it's usually the RG or RT who carries the play into the game and he must change the player number on each play in his verbal report to the recorder. Flanagan marks the QB, LHB, FB, and RHB in that order on the execution of their assignments.

We use a rating system of "5" for action above and beyond the call of duty. "4" rating is for execution of assignment on the play, "3" for a Good block, "2" for a Fair, "1" for Poor, and "0" for a missed assignment.

Teamwork between the spotters and the movie cameraman is essential in this verbal operation. There are 11 ratings per play, and with about 100 to 120 plays a game a total of approximately 1,100 to 1,320 ratings must be given.

The ratings are given in order, starting with the LE and progressing to the RE and then to the backfield in order. Backs are rated according to block, fake, or QB on handoff, etc. The cameraman records the yards gained or lost, down, yards to go for first down, position of ball on the field and hashmark, and penalties when they occur.

An "X" or "?" is recorded if a player assignment is missed by the spotter. This is checked later when the game film is evaluated. Thus every player receives a rating on

#### • The voice-on-tape serves handily as a complement to game movies, a grading aid, a scouting device, and for developing a uniform cadence count

almost every play during the game.

The players also are rated on the execution of their defensive assignments. From the press box it's possible to notice and record the defensive alignment, either 7-1-2-1, 6-2-2-1, 5-2-2-2, etc. All plays in the game, from the opening kickoff to the final whistle, are evaluated on tape. As far as possible, we try to give each player at least a number evaluation on his effort in every play recorded on tape.

Prior to the game, the manager rules off our rating form on a Ditto stencil. During the half, he fills out the rating forms from the tape. He fills in the sequence of plays, the down, distance to go for the first down, position of the ball on the field and hashmark, the play number, gain or loss on the play, and the number rating for the players. It's possible to fill out the Ditto for the first quarter and part of the second quarter during the half.

After the game, the managers return to the Prep. One manager starts to run off the rating sheets, while another completes the stencils for the rest of the game. These are duplicated to provide copies for both the players in the game and the coaching staff.

From a half-hour to 45 minutes after the game, the completed rating sheets are ready for distribution to the squad. They have their copy for study after their showers, while the staff get their rating sheets on the Sunday evening following the game.

St. Peter's is just across the Hudson River from its film lab in New York City. This proximity assures rapid service on the processing of its game movies. Hainfeld meets one of the employees near the entrance of the Lincoln Tunnel early Monday morning and turns over the game film. The film is one of the first into the lab to be processed. A student manager picks up the developed film on his lunch hour and it's back at the school by 1 o'clock Monday afternoon.

We're fortunate to have the film back so soon in that it enables us to get an early start on the evaluation of our films.

Now comes the play-by-play analysis of the game movies, and it's here that the tape recorder proves a real time-saver. In previous years,

it would take about eight hours to evaluate each play and player from the film. The recorder cuts this time down to 2½ to 3 hours. That's one of the real values of recording the comments on tape, rather than stopping the projector after each play and turning on the lights to write comments about each player.

In the past, the plays had to be run through about six or seven times to make this evaluation on each player. But with the help of the preliminary evaluation from the tape taken during the game, it's now possible to make a more complete evaluation with just two or three run-throughs on each play. By 4 o'clock Monday, the completed comments are on the tape from the game films.

Our head coach, Bill Cochrane, takes over at this time. As Monday is usually a non-contact day for the varsity, the films and tape are shown and played for them. The tape is played back first and the players write down the evaluation of their individual play, including the more extensive remarks made from the tape.

They have these written comments and evaluation in front of them as they view the game movies. These written comments taken from the tape are very helpful in highlighting the points to be watched for by each player in the film.

The rating sheets come in very handy, as the players and the coaching staff have the evaluation from the tape recorder about every play and player. This helps greatly in correcting errors in both offensive and defensive play when preparing for the next game. The film offers a visual review of the game, while the tape serves as an audio or verbal evaluation.

#### AID IN SCOUTING

The tape recorder has also proved a valuable aid in scouting. A system similar to the recording of the game is used. The members of the coaching staff sit in a semi-circle around the microphone. The recording starts with warm-up drills, noting the passers, punters, average distance, and other items. Numbers of starting line-up and positions are put on tape.

When a team uses a T offense

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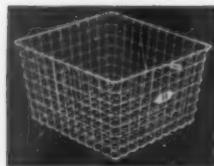
**For Efficiency, Economy  
and Lifetime Durability**

## AMERICAN *Approved* EXTRA HEAVY DUTY DRESSING ROOM EQUIPMENT



AMERICAN APPROVED HEAVY DUTY STEEL RACKS Perfect storage for gym baskets. Supplied with padlock loops... and number plates numbered to your order.

AMERICAN APPROVED GYM BASKETS with padlock loop and number plate



### ALL-AMERICAN HEAVY DUTY UNIFORM HANGER

Faster, more thorough drying—accommodates all of a player's basketball, baseball or football gear. Hot dipped tinned finish protects against rust. Metal number plates to order.



**Write for Literature**



similar to ours, we indicate the numbers of our plays that closely resemble the ones they're using, noting the exceptions in blocking or faking. The opponents' offensive and defensive patterns are recorded and a study is made of their blocking assignments, observing how they block, trap or double-team. Also tape-recorded are pass offense with position of receivers and protection given passer, along with favored ball-carriers and plays.

We also record the defensive patterns of the team being scouted, noting their better linemen and how their defense charges.

A fairly complete scouting report is made available to the staff. Occasionally a team is scouted two or three times, and the tape is replayed to refresh our memory and notes. It also helps to have one of the freshmen coaches along as a scout. He can hear the report as well as review the written comments taken from the taped reports.

The tape recorder has other uses as well. For one, it helps develop a standard cadence count by our quarterbacks. The #1 QB records his cadence on tape so that the second string, JV, and freshmen quarterbacks can develop approximately the same rhythm in their calls.

Although not original at St. Peter's, we've used the tape recorder to help develop a silent count before passing the ball. It takes quite a bit of practice, but it can be done. Instead of the quarterback calling off the numbers, with the ball being passed on a certain number, the team counts to themselves.

In the huddle, the number on

which the center is to snap the ball is given. After the team lines up on the ball, our quarterback calls "Ready" in a quick, sharp voice. Then SILENCE, while the players count to themselves, with the ball being snapped on the prearranged number. The cadence has been recorded and the team must learn this count. The play comes as quite a surprise to our opponents and usually goes for a long gain.

Many calls for our game movies are made by church gatherings, the CYO, altar boys' meetings, and other local functions. It's often difficult for our busy coaching staff members to attend these meetings, and we use a rotating system in which the coaches take turns going to these functions with the game movies.

The recorded tape comments on the game accompany the film and recorder to these meetings. The recorder is placed near the center of the group away from the noise of the projector. This system works out quite well. Coaches don't have to give up too much of their time to attend these functions during their busy season—the recorder helps take their place.

It may seem that the recording job requires quite a number of reels of tape. Actually, once the information has been transcribed from the tape, it can be erased and the tape reused. During the 1956 nine-game season, 22 reels were used. After the season, only the completed comments for next season were saved—nine reels.

As you can see, the tape recorder can prove an invaluable help to a coaching staff and squad.

## "10 FOR 10", A NEW FREE-THROW SHOOTING GAME

FOR the last five years, the Emmanuel Academy quintet of Reedley, Calif. has been having a lot of fun—and deriving a lot of benefit—from a free-throw game known as "10 on 10."

Any number may play it, though five makes the best group. Player No. 1 shoots until he converts one foul shot, being given 10 chances to do so.

After he sinks a shot, he moves clockwise and player No. 2 takes over. He also is given 10 chances to convert a foul shot. After he makes the shot, he rotates clockwise and player No. 3 steps up to the line. Players Nos. 4, 5, etc. (as many as are playing) then follow in order.

On the second round, the players must make two out of their 10 shots to stay in the game. The game then

continues, with the required number of conversions being increased by one on each round. Players failing to make the stipulated number drop out.

Play continues until a winner is designated or until some one makes 10 out of 10. This is just an arbitrary number. It may be made smaller or larger, depending upon the number of players, the time available, and the basketball experience of the group.

As you may readily surmise, the game is extremely interesting and affords valuable practice on foul-shooting under pressure, particularly as the required number to be made reaches the final 10 mark.

It's an excellent way to determine your best free throwers.

—Jake Klassen, Coach

## Let Lou Little\* show you why he picks The J5-V



"A really good football has a tacky feel in the leather that lets the player know he's in control of the ball when he grips it."



"How can you test for this feel and control? It's easy. Just pick up the ball with your passing hand, like this . . .



"Now tighten your grip. If the ball doesn't slip—if it stays put so you're sure of it—you've got a football your boys can control."



"I know only one football that can pass this simple test under all weather conditions . . . and that's the Spalding J5-V."

\*Member of Spalding's Football Advisory Staff

### Only Spalding's J5-V with "Grip-Guard" can pass this test in any weather!

Here's why: Only the J5-V has "Grip-Guard"—an exclusive Spalding process that permanently locks the tacky feel in the leather. Even in wet weather—even after repeated cleanings—the J5-V stays dry, tacky, easy to control.

Like all Spalding merchandise, the improved J5-V is guaranteed—unconditionally!

**SPALDING**  
*sets the pace in sports*

*Here are just a few of the colleges  
that play the J5-V—*

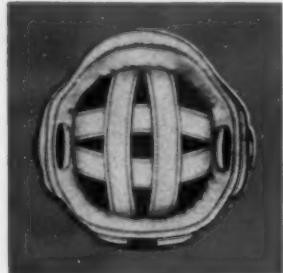
AUBURN	OKLAHOMA
COLORADO	PENN STATE
DARTMOUTH	PURDUE
GEORGIA	RICE
INDIANA	SYRACUSE
KANSAS U.	TEXAS A & M
LEHIGH	U. C. L. A.
MICHIGAN STATE	U. OF PENN
MINNESOTA	UTAH
NEBRASKA	VILLANOVA
NORTH CAROLINA STATE	WAKE FOREST
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# **NOTHING LIKE IT-EVER!**

**From MacGregor Research**

## **UNEQUALLED PROTECTION . . .**

From research . . . in the lab and on the field . . . comes the E700 plastic helmet, the lightest and most protective helmet ever made! Exclusive MacGregor construction eliminates shock from both angle and straight-on blows. Increased peripheral vision accomplished by unique contoured design and shape. Strategic reinforcing of vital areas . . . particularly where face mask attaches . . . gives added strength, added protection. The new E700 has latest application of the MacGregor "Geodetic" Crown Suspension (Pat. No. 2,679,046) . . . scientifically designed to cradle the head.



## **FEATHERWEIGHT . . .**

Never before in the history of the game has there been a helmet that provides so much protection . . . yet weighs so little! Compare . . . and feel the difference! *The new E700 weighs less than any other football helmet now on the market!*

## **MORE COMFORT . . .**

## **LESS FATIGUE . . .**

The E700's light weight, soft padding, flowing ventilation and perfect fit automatically produce more comfort for players . . . important in games and during long daily practice sessions.



## **HIGHEST DIMENSIONAL STABILITY . . .**

Shock resistant shell is made of a new plastic formulated primarily for *high impact strength*. In the laboratory and in actual games, MacGregor E700's withstood every test. The lustrous surface proved practically dent-and-scuff-proof. The plastic material is not affected by heat, cold, humidity, sun or rain.



## **MODERN "SHOWMANSHIP" STYLING . . .**

Its smooth, streamlined lines give the E700 a "smart-as-tomorrow" appearance. Players and fans alike appreciate sharp looking teams. *Available in wide choice of colors, with a variety of striped color combinations.*



**Another First made possible**

*comes the new E700 Helmet.*



TOP VIEW



SIDE VIEW

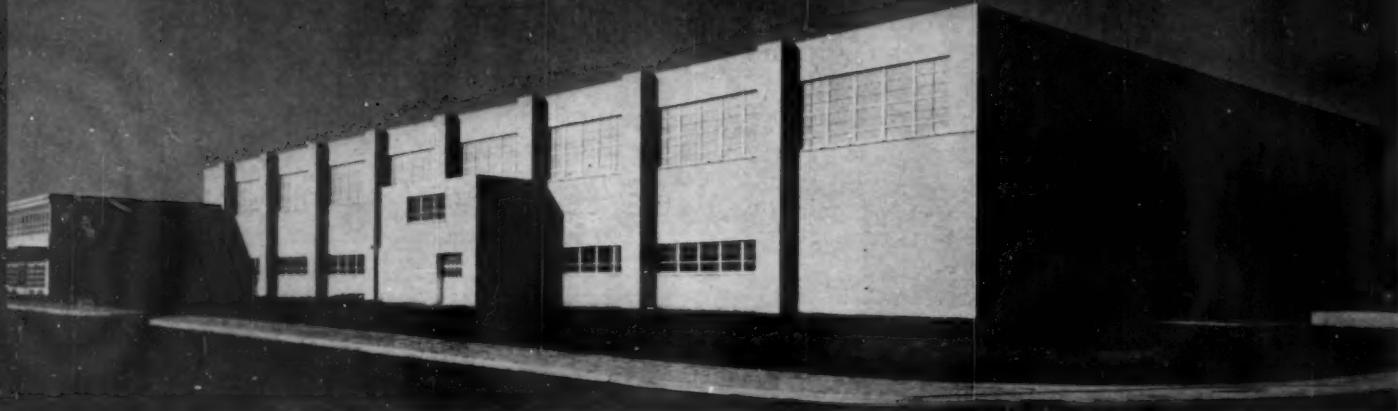
*MacGregor*

*"The Choice of Those Who Play the Game"*

**by MacGregor Research!**

The MacGregor Co., Cincinnati 32, Ohio

# High School Fieldhouse, Versatility Personified!



*Featuring a permanent basketball floor and a 10-lap clay track!*

**M**AINE Township High School, with Childs & Smith as architects, developed a three and a half million dollar addition to the school in 1951.

Faced with a choice between building a gymnasium or a fieldhouse, we decided upon the latter. We felt that for an equivalent expenditure one-third more floor space could be provided and a greater variety of services made available to the students.

Our fieldhouse offers all the facilities that are incorporated into any gymnasium. In addition, it possesses a large area for field events and a 10-lap track with dash facilities.

The clay floor is a mixture of clay and about a third cypress sawdust. The basketball courts are off center and inside the six lanes for track. It was decided, against the advice of many, that the floor would be permanent and level to within one inch of the track or dirt floor.

The wood floor is laid flush over a thick concrete pan. The 2 x 4 to which the maple floor is nailed provides approximately a 3-inch air space between the waterproofed cement pan and the 60' x 100' floor.

There is a 6-inch iron grille plate around the entire floor. This allows air to circulate under the floor to avoid warping the floor with excessive moisture. The floor is as good today as it was when it was installed.

Some care has been exercised to keep the area ventilated during the summer and to keep sprinkling water away from the floor. The water outlets for sprinkling the track and the clay floor are located at the edge of the concrete floor pan to encourage the sprinkler to direct the water spray away from the wooden floor rather than toward it.

The permanent floor was adopted because it could be kept near the level of the dirt floor. Second, because adequate storage for a sectional removable floor requires considerable space. Third, because a high school cannot afford the labor necessary to frequently assemble or dismantle such a floor.

In the field-events area, only one pit was provided, which was for the broad jump. For pole vaulting and high jumping, canvas bags filled



*The large, airy, beautifully lighted 22' x 53' wrestling room.*

with sawdust outline a pit into which is dumped an adequate supply of wood shavings and sawdust. It's thus possible, with the aid of a tractor, to move the materials into a corner when a clear level floor is needed for other activities.

The basketball floor is 60' x 100' and screened with an 8' net. It has two cross-courts with removable goals, which are taken away for interscholastic games. The basketball goals at the ends are removable, too, but not as simply.

A balcony runs along two sides and across one end of the fieldhouse. Permanent foldaway bleachers are on these balconies opposite the basketball court. They provide seating for 2,200 spectators.

When the bleachers are folded, the balcony space is available for varied activities. Three trampolines are along the ends, while the sides have mats for tumbling.

The ends of the side balconies that extend beyond the court are used for gymnastic equipment. A golf driving net is also installed on one side. On the other end is sus-



*The fieldhouse houses the annual Chamber of Commerce Fair.*

**By H. D. ANDERSON, Maine Township H. S., Des Plaines, Ill.**



*This fieldhouse features a 60 x 100 basketball floor screened with an 8' net, balconies along two sides and one end containing seating for 2,200 and various gym-*

*nastic equipment, a 10-lap track with six lanes, a large area for field events, and two cross-courts with removable goals. You can play almost anything in it.*



The most popular Nylon racing trunk in the country. Popular with swimmers and top teams because it's **5 ways better . . .** and popular with schools everywhere since its high quality features mean longer wear, lower cost in the long run. Let us PROVE to you that Ocean Champion is better . . . 5 ways better, and is the trunk for you!

**ORDER NOW . . .  
and compare!**

Style No. 65  
**\$36.00 per doz.**

Sizes: 22 to 38

- Black • Royal • Scarlet
- Dartmouth Green
- Orange

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OF COMPLETE LINE



**OCEAN POOL  
SUPPLY CO.**

America's headquarters for ALL  
swimming and pool accessories

pended a baseball batting net with a baseball throwing machine.

These installations suggest that many different activities can be operated simultaneously. During the school day, four boys' physical education classes of 30 to 40 boys each are frequently conducted.

After school, it's common to see the gymnastic team working out in the balcony, the sprinters on the track, the field-events men working out in the area provided for jumping, pole vaulting, and shot put, and the basketball squad working on the wood floor.

This type of building is unlimited in its adaptability for service to the school and to the community. Large audiences can be seated for assemblies and public meetings. The commencement exercises are held here when the weather is inclement for outdoor programs. These ceremonies usually attract an audience of 5,000 or more.

#### FIELDHOUSE EQUIPMENT

- Beatty Railway Bleachers—Safway Steel Scaffolds
- Basketball Backstops—J. E. Porter Corp.
- Trampolines—Nissen Trampoline Co.
- Dudley Automatic Baseball Pitching Machine—O. B. Parrish
- Electric Scoreboard—Nevco Scoreboard Co.
- Basketball Netting—The Linen Thread Co.
- Sico Folding Table Tennis Tables—E. W. A. Rowles Co.
- Medart Horizontal Bar—O. B. Parrish
- Golf Net—Sterling Net & Twine Co.
- P.A. System—Du Kane

#### DIMENSION STATISTICS

Fieldhouse floor	190' x 240'
Basketball floor	60' x 100'
Field court area	100' x 192'
Varsity Team Room	16' x 150'
Visiting Team Room	18' x 22' on main floor
Storage	18' x 32' on main floor
Foyer	21' x 50'
Floor to ceiling	vertical—37'
Balcony:	
West end	width—19'
Sides	width—16'
Locker Room	28' x 150'
Wrestling Room	22' x 53'

It would be possible with the aid of more knockdown type bleachers to seat over 6,000 for assemblies and basketball games. For basketball games, about 4,400 seats are ordinarily put into place.

The public address system makes communication very simple, while public toilets are provided on the main floor and balcony levels.

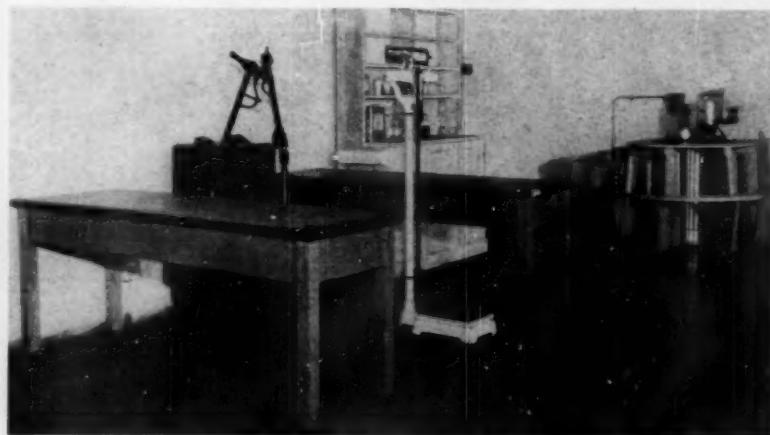
On the main floor is a visiting team room equipped with lockers, showers, and toilets. Private rooms for the officials with showers and toilets are also on the ground floor level.

In the basement below the fieldhouse floor are large locker rooms, adequate showers, a therapy room equipped with tables, heat lamps, diathermy machine, whirlpool tank, and cold pack equipment.

The weight-lifting room and generous office space are located on this level under the entrance lobby.

The reader, no doubt, is wondering about the dirt floor, since many of these fieldhouses are having the dirt floor surfaced with asphalt or

(Concluded on page 47)



Therapy room below fieldhouse floor is equipped with heat lamps, diathermy, whirlpool, cold-pack equipment.

they're

# BOTH CONVERSE Chuck Taylor ALL STARS



and  
they're  
both

# TOPS

IN FIT, SPEED  
AND ENDURANCE

## REGULAR ALL STAR

First on the court for over 40 years — and still the world's outstanding basketball shoe — worn by more leading teams in high school, college and major league play than any other brand.

### BOTH ALL STARS feature

- COOL, COOL FREE-BREATHING loose lined army duck uppers
- LIGHTWEIGHT for speed
- FOOTFORM LAST
- ARCH CUSHION combined with shock absorbing sponge insole
- RUGGED PROTECTIVE TOE GUARD
- DOUBLE SOLE BINDING
- NON-MARKING MOLDED OUTSOLE for positive traction
- FABRI-GARD LINING is treated to better withstand chemical action of perspiration
- EASILY WASHABLE with mild soap and water

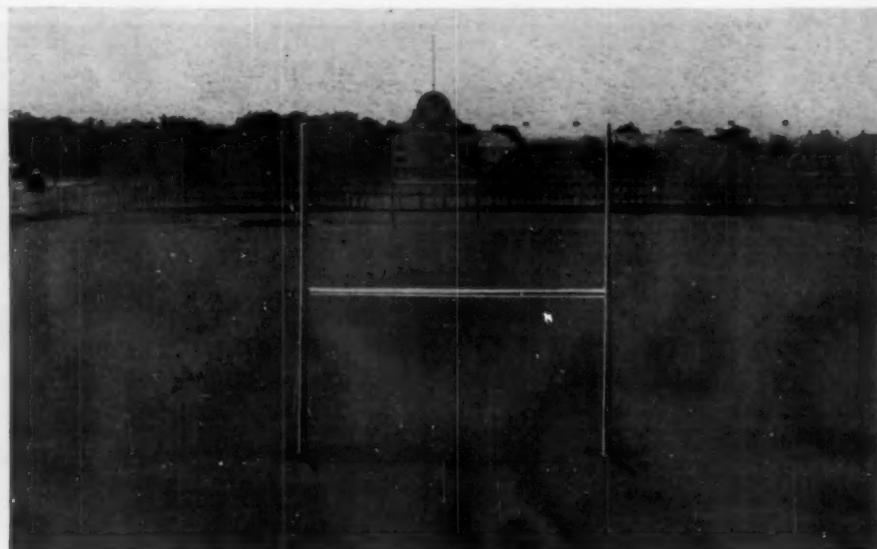


**CONVERSE**  
*Chuck Taylor*  
**ALL STAR**  
BASKETBALL SHOES

CONVERSE RUBBER COMPANY  
MALDEN 48, MASSACHUSETTS



This thick turf affords fine footing; lush underground roots shoot up new growth when top wears down.



Maintenance is just as important as the new turf (Bermudagrass T-22) on Kyle Field, Texas A & M College. Close clipping between seasons help maintain a fast-growing turf that gives the players protection against ankle injuries.

## New, Fast-Growing Turf for Football Fields

By A. B. KENNERLY, Texas A & M College

"I HAVE seen the turf in all the major football stadiums in the United States, but I've never seen a turf equal to the one on our field," says Coach "Bear" Bryant of the Texas A. & M. Aggies. "The thing that amazed me was the rapidity with which the turf was developed. On June 1, 1956, the ground was bare. By September, the turf was the best I have ever played on."

A full cycle has now passed, and Kyle Field looks better than ever.

The story goes back to research, with the objective of getting a more suitable turf for football fields. "For many years, the poor turf on Kyle Field was a source of embarrassment to those of us in the teaching and research of turf," says R. C. Potts, who headed up the early research and has devoted time to its maintenance.

Potts had decided what to look for when the research began. The

grass would have to make a dense turf. It would have to be fast-growing. It would have to have plenty of underground roots so that when the tops were cut off by the cleats of hard-hitting runners, new shoots would spring up after a few days. Finally, the grass would have to stand heavy use and be disease-resistant.

With these points as a guide, the task of finding a suitable grass was begun. Several hundred turfed areas and golf courses were visited. Whenever a Bermudagrass that was different was discovered, a 4-inch plug was lifted from the ground and sent to College Station. At the end of the search, about 125 of these plugs had been placed in greenhouse flats to be propagated and then moved to test plots in the turf nursery.

Out of these plantings, two strains emerged that showed promise—T-22, the grass that presently pro-

vides Kyle Field with fast running grounds, and T-47, a similar strain.

"The only large planting of T-22 in existence today is found in Kyle Field," Potts reveals. "There was just enough in the nursery to sod Kyle Field and no more than a small nursery plot of this strain has since been propagated.

"However, strain T-47 is rapidly being propagated and there should be an ample supply of sprigs to enable schools and colleges to make their own start of the grass. The University of Texas has planted some of the T-47 on its practice field and plans to replant its Memorial Stadium next year if the grass provides a superior turf."

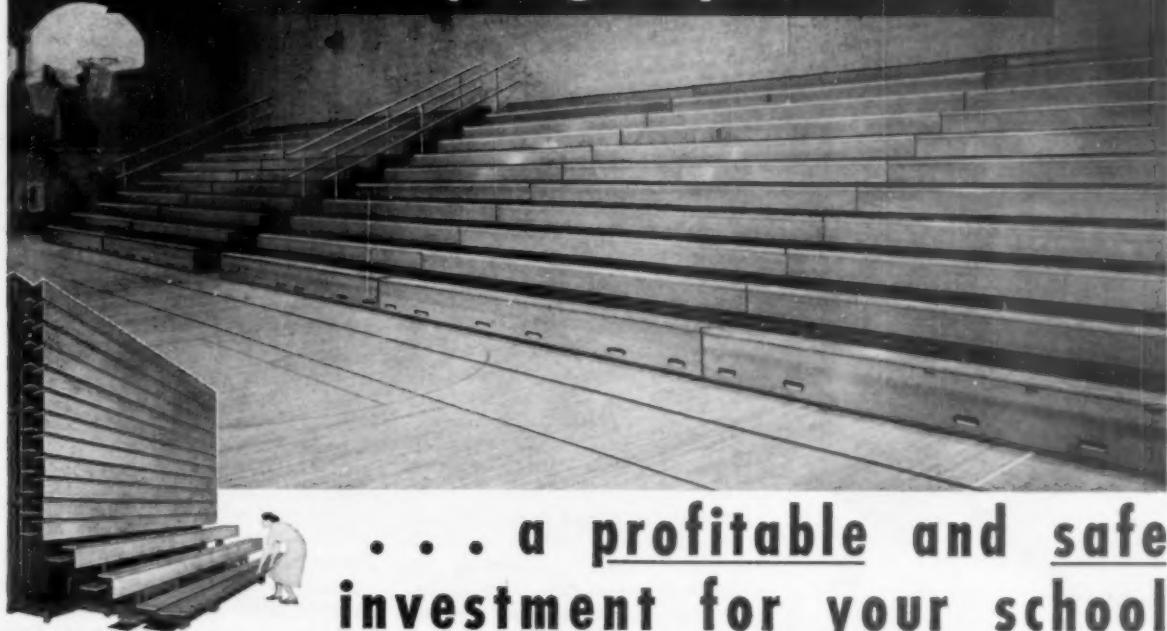
Many attempts had been made to produce a good turf on Kyle Field in the past. One year, an aerifier was purchased to punch holes in the ground to let in water more readily. Another year, a carload of agricultural peat was applied to the grounds. Over the years, many pounds of fertilizers of various kinds had been applied.

All of these treatments helped, but they failed to develop the high quality turf that was desired. Meanwhile, the soil was being continually packed by the blows of Southwest Conference football greats.

Compacted soil was difficult to

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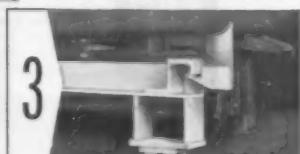
### SAFE AUTOMATIC LOCKING

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(1) **LOCKING OPEN.** As each row is extended, latch drops behind lock bar on carriage ahead to prevent movement between rows.

(2) **RELEASING LATCH.** After unlocking the cylinder lock, pushing seats inward forces tapered end of latch against unlocking bar, raising notched front end and freeing row ahead.

(3) **LOCKING SHUT.** With all rows nested, brake pads are lowered and hooks engage brackets on unlocking bar.



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the new sport sock that stretches to fit any foot size 10 to 13.

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get water and air through, with the result that roots remained near the surface to produce a thin, weak turf. The area was infested with annual weedy grasses that had shallow systems and couldn't stand the heavy traffic of football. In addition to being the home of the Texas Aggies, Kyle Field was also the home of large numbers of mole crickets which fed on the roots of Bermudagrass, cutting them just below the ground level.

It was in this soil that the new grass T-22 was to be introduced.

The first step in the renovation of the turf was to loosen the soil to a depth of 10 inches using a Graham plow. The soil was packed so tight, it was necessary to go over the field seven times in different directions before the desired depth could be obtained.

This part of the work was also given attention by Barlow Irvin, an assistant to the athletic director for the College. "Kyle Field has an 18-inch crown in the center, and slopes uniformly to the sidelines," Barlow explained. "It was desirable to maintain this slope to provide surface drainage."

After the field had been tilled and smoothed, it was treated with the chemical "Vapam" to destroy the common Bermudagrass, the harmful insects, and weed seeds remaining in the soil. Two weeks were allowed after treatment before planting.

"The sod from the nursery was cut just below the ground level and processed over a one-inch heavy-gauge screen to remove all soil and dead material," Potts explained. "The grass was then fed through a power mower to cut it into 3 to 4-inch lengths. The sprigs were broadcast on the ground surface at the rate of 3 to 4 sprigs per square foot and a rotovator, set to till the soil 2 inches deep, worked the sprigs into the soil.

"The planted grass was watered immediately and the upper six inches of soil kept moist for 10 days. Grass was planted May 20 and by July 1, the field was completely covered."

A thousand pounds of 10-20-10 fertilizer was broadcast on the surface at the time the field was torn up; and on August 1, 75 pounds of nitrogen from ammonium nitrate was broadcast on the surface. Five-hundred pounds of cottonseed meal was applied to the area September 1, October 1, and again on October 15.

Potts' continued interest in developing a good turf for Kyle Field stems from his interest in both grass

and a good, fast game of football. He quotes the Aggie trainer as saying that the new turf helps prevent injuries, particularly to the ankle.

"Tall grass commonly grown on football fields slows the runner," Potts observes. "They can't get the footing such as we have on a fast field like Kyle Field."

Potts insists that proper maintenance is just as important as the T-22 Bermudagrass hybrid. Chronologically, he recommends beginning maintenance May 15 after spring football practice and track meets are over.

Set the mower at a quarter of an inch to remove all top growth. After this is done, fertilize the oval with a ton of high analysis complete fertilizer. Work the fertilizer into the soil and fill low places with the aerifier. The aerifier should be run over the field 25 or 30 times pulling a drag net behind it.

#### MOWING THE GRASS

Mow the grass two or three times a week with mower set at three-quarters of an inch above a concrete floor, using a good reel power mower. Larger mowers with tractors tend to pack the soil too much. Potts recommends cutting often enough so that no more than  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch need be cut off the grass.

Take clippings off the turf. This is recommended mainly to present the field with a clean, green appearance. Otherwise, clippings turn brown and are kicked up by cleats to leave the field with a ragged appearance.

The fertilizer program consists of applications of a ton of high analysis complete fertilizer in the late spring, 1,000 pounds of cottonseed meal July 1 and August 1, one ton on September 1, and 1,000 pounds October 1 and November 1 on approximately two acres within the oval.

Water as needed, usually every 10 days unless rain falls meanwhile. Water should penetrate to a foot depth at each watering.

"We cannot write a recipe for maintenance," Potts cautions. "Maintenance will vary with each field, each season. We shall work up another schedule next spring for Kyle Field and it will vary from this year's schedule according to the needs and the development of the grass."

With this turf maintenance on Kyle Field, the T.C.U. game was played last year partly in a blinding rain when .9-inch fell in a few minutes. At no time did the field get muddy.

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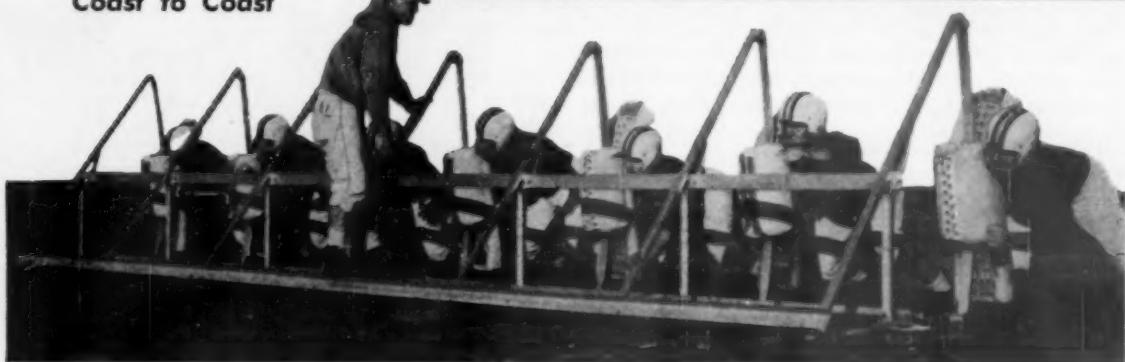
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- long leaf spring action gives almost human resistance
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- quality construction throughout
- weight 1100 lbs., all steel, built to last.

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# Mercury Vapor Floodlighting

## THE KEY TO YEAR 'ROUND SPORTS

P LANNING to floodlight your school's outdoor athletic or recreational areas? Then investigate the possibilities of mercury vapor floodlights.

They're brighter, have longer bulb life, and require less maintenance than incandescent lights. These advantages will enable you to install and maintain a floodlighting system that can be used the year around—not just for school athletic events but community sports and seasonal play activities as well.

Mercury vapor floodlighting isn't new. In fact, the lighting principles which produce it are older than those of incandescent lighting.

As most of us know, the incandescent lamp produces light when electric current passes through its filament, causing the filament to glow and emit light.

Like the incandescent lamp, the mercury vapor lamp has a "filament"—actually a tube filled with mercury. When the tube is electrically activated, it vaporizes the mercury. Simultaneously, an electrical arc forms which intensifies as the mercury continues to vaporize. This arcing produces light.

In use for years, this method produces a blue-green light—intensely bright, but sometimes rather strange in its appearance upon your skin.

Mercury vapor lighting has another effect which illumination experts used to believe limited its use—the stroboscopic effect. When fed electric current at the rate of 60 cycles per second, the light source of the lamp is literally switched on and off 60 times a second. These less-than-momentary shut-downs create faint flickerings in the light pattern.

Only reason that incandescent filaments don't do the same thing is because they keep hot and con-

tinue to burn throughout the off cycle.

Until recently, mercury vapor floodlighting was limited to such illumination jobs as construction sites, parking areas or roadways, where the lamp's blue-green color and slight flicker were unimportant when compared with its high illumination output.

But new design and illumination techniques have remedied these handicaps. Solution for the "color" problem, for instance, was the fluorescent mercury vapor light. Inside surfaces of the lamp bulb were coated with phosphors. Instead of the light source emanating directly from the filament tube with its reservoir of vaporizing mercury, as it used to, it comes from the phosphors. Arcing mercury excites the phosphors, causing them to glow and give off an attractive white light.

Stroboscopic effect was overcome by mixing in the same system both incandescent and mercury vapor bulbs. Thus, the former units stabilize the effect by providing continuous lighting during the latter units' off cycles.

Thanks to these improvements, mercury vapor floodlights may eventually replace incandescent luminaires as prime sources of illumination at athletic areas. They offer an inestimable advantage to the coach who wants his floodlighting to work for him year 'round—long burning time.

It's senseless to floodlight an area that isn't used as often as possible. Short burning periods—say 30 to 50 hours per playing season—certainly won't amortize the initial installa-

tion costs, daily overhead, and depreciation of a school floodlighting system.

Only active, continuous use will do that, not only financially but in the general benefits that nighttime athletic schedules offer to both students and the community.

Nothing illustrates the long burning characteristics of mercury vapor floodlighting better than this ideal example: Suppose a Miami, Fla., school averages 30 hours of burning time per week the year around. Four-and-one-half years will pass before mercury vapor fixtures will require relamping.

If incandescent lamps were put to the same test, they'd last only 7½ months. And relamping is an expensive chore that usually must be assigned to an electrical contractor.

Mercury vapor lighting is 2½ times brighter than incandescent fixtures of equivalent capacity. Whereas a 1,000-watt incandescent bulb delivers 21,000 lumens of light, a 1,000-watt mercury vapor floodlight sends out up to 60,000 lumens!

If mercury vapor luminaires are so effective, why haven't they outstripped incandescent floodlights long before this—especially when you remember that their greater light output means a simpler, less expensive floodlighting system, with fewer floodlight poles and less complex circuitry and accessory electrical equipment.

Prime reason is high initial installation cost. Although a 400-watt mercury vapor floodlight equals a 1,000-watt incandescent luminaire in light output and lasts seven times longer, it costs about seven times more.

Also, mercury vapor lamps require ballasts, which furnish sufficient voltage to start the fixtures arcing and, once the lamps are burning, regulate the current passing through them.

But in view of the fact that the best all-around floodlighting system is the one that's used most consistently, mercury vapor units are ideal for illuminating general recreational activities. Include in this category such games as youngsters' softball, ice skating, and playground contests such as badminton, cro-

(Concluded on page 80)

By JOHN S. HANEY



# ARNETT

# STARTING

# BLOCKS

A Decade of  
Championship Performances

*The Choice of Every U. S.  
Olympic Team Since 1948!*

A Decade of World Record-Shattering Performances Stands Behind the ARNETT Blocks. Built for Standardization, Better Starts, Superior Performance, Less Delay, and Greater Attendance. Truly the Champion Starting Block!

Arnett is the Official Starting Block for the Country's Greatest Relay Carnivals and Meets . . . Proved Year After Year in the Following Great Events.

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- TEXAS RELAYS     • MADISON SQUARE GARDEN NATIONAL CHAMPIONSHIPS
- LOS ANGELES COLISEUM

. . . and most of the other great Meets  
throughout the United States

# World and Olympic Records

Used in Nearly Every Record-Breaking Performance since 1947

## WORLD RECORDS ESTABLISHED OFF THE ARNETT BLOCKS

Event	Time	Athlete	Where Made	Date	Event	Time	Athlete	Where Made	Date
100-Yd. Dash	9.3	Mel Patton	Fresno, Cal.	5/15/48*	120-Yd. H.H.	13.5	Dick Attelesey	Fresno, Cal.	5/15/50*
100-Yd. Dash	9.3	Jim Golliday	Evanston, Ill.	5/14/55*	220-Yd. L.H.	22.2	Dave Sime	Durham, N. C.	5/5/56*
100-Yd. Dash	9.3	Leamon King	Fresno, Cal.	5/12/56*	220-Yd. L.H.	22.3	Har. Dillard	Salt Lake City	6/21/47†
100-Yd. Dash	9.3	Dave Sime	Durham, N. C.	5/5/56*	400-Meter H.	49.5	Glen Davis	Los Angeles	6/29/56*
100-Yd. Dash	9.3	Bobby Morrow	Texas Relays	4/6/57†	110-Meter H.	13.4	Jack Davis	Bakersfield, C.	6/22/56*
100-Yd. Dash	9.4	Bobby Morrow	Abilene, Tex.	4/27/57†	880-Yd. Run	1:46.8	Tom Courtney	L.A. Relays	5/24/57*
220-Yd. Dash	20.0	Dave Sime	Sanger, Cal.	6/9/56*	2-M. Relay	7:22.7	Occidental	L.A. Relays	5/24/57*
220-Yd. Dash	20.2	Mel Patton	Los Angeles	5/7/49‡	880-Relay	1:22.7	U. of Texas	Texas Relays	4/4/57*
440-Yd. Run	46.2	Herb McKenzie	Salt Lake City	6/21/47‡	440-Relay	39.9	U. of Texas	Kansas Relays	4/20/57*
440-Yd. Run	46.0	Herb McKenzie	Berkeley, Cal.	6/5/48‡	440-Relay	39.9	Abil. Christ.	W. C. Relays	5/11/57*
440-Yd. Run	45.8	Jim Lea	Modesto, Cal.	5/26/56*					

\*record or record tied

†former record

‡outstanding performance

\*record not yet confirmed

## OLYMPIC MARKS MADE AT MELBOURNE OFF THE ARNETT BLOCKS

Event	Time	Athlete
400-Meter Hurdles	50.1	Glen Davis
800-Meter Run	1:47.7	Tom Courtney
400-Meter Run	46.7	Charlie Jenkins
100-Meter Dash	10.5	Bobby Morrow
200-Meter Dash	20.6	Bobby Morrow
400-Meter Relay	39.5	Baker, Murchison, King, Morrow
110-Meter Hurdles	13.5	Lee Calhoun
1600-Meter Relay	3:04.8	Mashburn, Jones, Jenkins, Courtney

## Coaches Approve . . . Runners Enthusiastic over this magnificent Starting Block

"I hope the Arnett Starting Blocks soon become standard equipment, two for each lane furnished by the home school, at all track meets . . . as they are the finest . . . well-suited for standardization, and easily applicable to all types of runners . . . My personal experiences and . . . of the athletes I have coached with the Arnett Starting Blocks have been so gratifying, I can unreservedly recommend them to all coaches and athletes as the ultimate in starting devices."

DEAN CROMWELL  
Track Coach Emeritus  
U. of Southern California  
U. S. Olympic Coach, 1948

". . . without hesitation, I can say that you have the finest block on the market."

L. T. JOHNSON  
Track Coach, University of Illinois

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## NOW BEING USED BY THOUSANDS OF SCHOOLS AND UNIVERSITIES

- Adjustable to all types of starters, right or left-footed, tall or short, in 3 to 9 seconds. Calibrated for remembered individual setting.
- Well-built for standardization and reasonably priced. Made of Aluminum Alloy.
- Furnish 2 ARNETT STARTING BLOCKS for each lane of your track, quit carrying blocks from school to school or town to town. Fully guaranteed.

## SOLD DIRECT TO SCHOOLS

Wholesale School Price: Each complete F.O.B. Inglewood, Calif., plus tax if any, at \$20. Replaceable parts when needed. Rubber Foot facings at \$1 and "T" Nails at 75¢ each.

# Richard W. Arnett

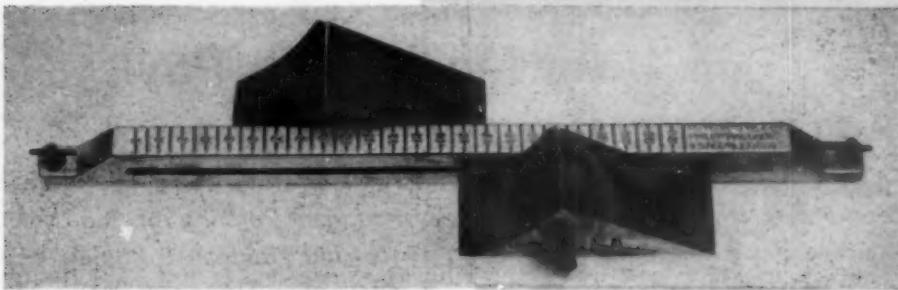
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INGLEWOOD, CALIFORNIA

LOOK FOR R. W. ARNETT U. S. Pat. No. 2323510  
Cast in the top of every ARNETT BLOCK

# Off the Arnett Blocks

## and Other Outstanding Performances



### Follow these instructions when using ARNETT STARTING BLOCKS

1. Loosen side blocks slightly before nailing center rail to track.
2. Nail forward end of center rail behind starting line.
  - (a) Colleges—10 inches.
  - (b) High Schools, etc.—8 inches.
3. Tighten wing nuts firmly with HAND ONLY, and they will hold.
4. Side blocks will slide past each other for adjustment to right or left foot starters, or varying distances behind starting line to accommodate tall or short runners, without taking center rail loose from track.
5. Rubber foot facings are a composite arc getting steeper as foot moves up block, hence by putting:
  - (a) Four front spikes of either foot on ground and leaving back two spikes on rubber (Fig. 1) . . .
  - (b) Or, only front two spikes on ground and back four still on rubber . . .
  - (c) Or, by putting all spikes of either or both feet on rubber (Fig. 2) . . .one can obtain any degree of slope desired. (Toe must rest on ground before start.)
6. Calibrations on top of center rail for remembered adjustment.
  - (a) Center rail standardized same distance from starting line of 10 or 8 inches by all schools.
  - (b) All runners can have blocks quickly adjusted to their own individual starting numbers, which are calibrated on center rail. Because center rail is number calibrated, any runner can have blocks quickly adjusted to own individual starting position.
7. Taking blocks up from track to move to new location, or to storage: Put foot or hand on center rail, twist each nail to break seal in ground. Pull each nail up into recess in center rail. Lift block up ONLY after each nail has been pulled.

**CAUTION:** Never pull up blocks with one or both nails still in ground. This bends nails, making it difficult to re-nail in track for later installations.

### HOW ARNETT BLOCKS Are Helpful to All Types of Runners



FIG. 1. For Stumbling Runner: Toes and cleats of front foot are on ground.

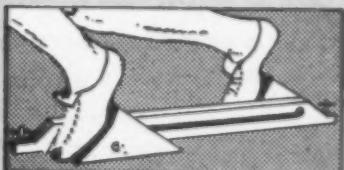


FIG. 2. For Bob-Up Runner: Toe barely touches ground; cleats on rubber pad.

**ASSEMBLY INSTRUCTIONS:** Side Blocks—square holes to inside. Large washer inside center rail. Small washer under wing nut.

Use a plastic-headed Stanley hammer No. 595, obtainable at a tool supply store.

It's recommended that every school obtain sufficient blocks so there's one for each lane of track.

One student manager can easily handle two blocks in any track meet.

# ARNETT STARTING BLOCKS

## *Can Make Track Meets Pay!*

*Coaches, Officials, Administrators, and Athletes Have Found That Arnett Blocks Improve Performance and Systematize Running of Big Meets—Increasing Attendance and Putting Track and Field on a Paying Basis*

### SUGGESTIONS FOR THE BEST USE OF ARNETT BLOCKS

1. Use plastic-headed hammers, "Stanley No. 595," obtained at a tool supply store.
2. Don't allow dirt, gravel, cinders, etc., to collect between center rail and side blocks. Avoid this by using hand to push loose dirt, etc., away from in or back of side blocks and center rail before moving side blocks to new adjustment for next runner.
3. Level well, wet, set and firm starting ground area for better starts and better operation of blocks. Either don't use starting ground area for practice starts or use blocks on the lines that divide the runners, thus saving center of lane for meets.
4. As soon as budget permits, obtain two Arnett Blocks for each lane on track. In big meets, keep one block for each lane down at stretch and another complete set at center of oval. Thus you'll save one hour or more of time usually wasted carrying blocks from stretch to center of oval and back again. Train a Block Committee of one man for two lanes to handle two sets of blocks. Equip each man with a plastic-headed hammer. Don't allow anyone else to set, move or adjust blocks except this trained Committee, especially in big meets.
5. When track is equipped as above, announce to public that field events will start at usual time with running events being delayed about 30 minutes, at which time most of field events will be completed.

Efficiency of good Block Committee will save enough time to enable you to finish meet at usual time or as much as one hour sooner, as you choose—enabling public to see all the events.

6. Place benches in infield of oval. At these benches, call events in advance so that athletes may nearly finish warming up. Then have qualified official, without delay, brief athletes at benches on all instructions and rules of race, including starting. Starter will then merely have to call contestants to their marks and get them off to a fair start. This saves time and preserves that pent-up energy so essential for championship performance.
7. Have all League or Conference schools equip their fields with Arnett Blocks—2 for each lane—and all schools will enjoy the finest starter in the world without having to carry blocks and hammers from meet to meet. This is possible only with Arnett Blocks. The "Double Slide" feature that makes this possible is covered by U. S. Patent No. 2323510. No other block in world is authorized to use this feature.

*Arnett Blocks Are Designed, Built and Distributed  
Exclusively by*

*Richard W. Arnett*

P. O. BOX 527 INGLEWOOD, CALIFORNIA

## H. S. Fieldhouse

(Continued from page 36)

some other experimental material. The writer believes that if this is to be done, it would be better to build a gymnasium in the first place. An asphalt floor isn't satisfactory or desirable for runners. The sweeping problem is more difficult than the cleaning of the wood floor.

The clay surface of the fieldhouse requires attention and must be frequently sprinkled to keep down the dust and to keep the track in condition. Frequent light sprinkling at night keeps the surface in condition and reduces condensation. The track has to be dragged with a tractor at intervals, much the same as an outdoor cinder track.

Since more dust accumulates on the wood floor than if it were an all-board floor, we consequently keep 36-inch cotton mops available, and it takes about three minutes for two operators to clear the floor.

The pictures illustrate some of the versatility of this plant. It's superbly designed. The architects kept the roof as low as possible, and the building is wide to avoid having to bank the track at the ends. The dimensions of the building are 240' x 190'.

During the day, the glass gives the area an outdoor atmosphere, and it's thrilling to see it teeming with a range of varied activity.

The writer wouldn't exchange the fieldhouse for the best high school gymnasium. However, there are skills about maintenance that must be learned. Once acquired, however, they're simple to implement and the service of the area cannot be matched by any gymnasium.

### SUMMER JOB OPENINGS

THE Camp Placement Unit of the N. Y. State Employment Service has many summer job openings in resident camps in the Middle Atlantic and New England States.

Particularly wanted are teachers with recreational skills such as arts and crafts, dancing, dramatics, sports, photography, and nature study. Camps are also seeking program and activity directors.

Counselors with such skills may earn from \$350 to \$550, while program directors may earn from \$400 to \$800 and up (plus room, board, and transportation).

Apply by mail or personal interview to Camp Placement Unit, 119 Fifth Ave., New York, N. Y. Early application is advised to secure a job choice and preferred location.

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Model 250-6  
Dimensions  
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Fast and accurate, it has maximum adaptability and flexibility; is low in initial cost and requires a minimum of maintenance. Completely automatic and perfectly synchronized, it flashes total time, play periods and exact score. Can be set for any length period, stopped and rapidly reset.

E-Z READ NUMBERGRAMS • TRANSLUCENT NAME PANELS  
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TIME OUT CLOCK (Optional at extra cost) FIVE BRILLIANT COLORS

Write today for free literature on this and other Basketball and Football Scoreboards and the amazing new COACHMASTER.

**M. D. BROWN COMPANY, 2215 Lake Street, Niles, Mich.**

"When Split-Seconds Count—Count On Scoremaster"

Your Floor Can Be Like This—  
Lively as the Latest "Big Ten"



Thornton School gymnasium — Thornton, Ill.  
Architect, Wm. J. Connor & Assoc.

This small town Illinois school boasts a floor of Wells' DIAMOND HARD Northern Maple—same as that latest "Big Ten" gym in Columbus, Ohio. —It's livelier. That's why!—A dead floor, however "pretty", is no bargain in any gym. And if you want a floor that will help finance the gym —

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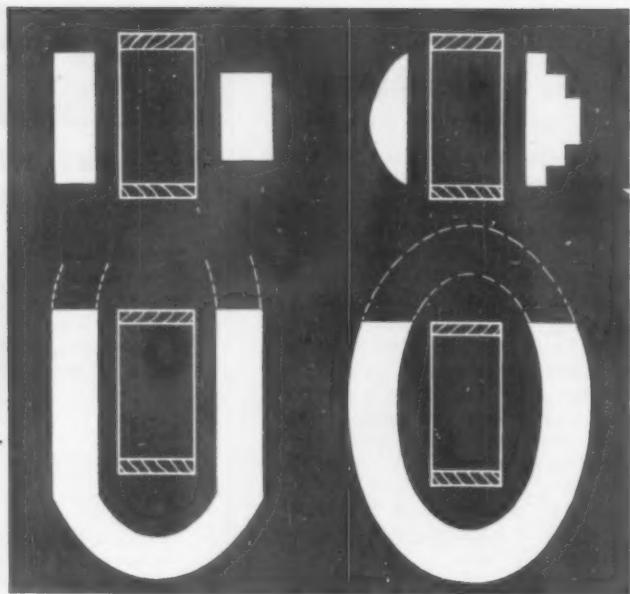
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# MODERN STADIUM DESIGN



**Shapes of Outdoor Spectator Structures:** Rectangular structures (upper left), crescent types (upper right), muleshoe stadium (lower left), and horseshoe stadium (lower right). Bowl-shaped stadium may be obtained by enclosing ends of mule- or horseshoe shape.

**T**HIS consideration of stadiums is primarily concerned with the types of structures most frequently needed for school and community use. It does not purport to discuss huge structures, of which there are or will be comparatively few. Rather, the treatment concerns the stadium of 10,000 capacity or less.

It should be obvious, however, that the basic considerations for such structures will also apply to larger units. Those responsible for planning stadiums should keep in mind that their creation is an integral part of the physical education, health education, recreation, and athletic programs of the school and community, not divorced from them.

In the early stages of planning, there should be joint effort of all concerned. The school professional staffs should furnish the curriculum and activity requirements. If the structures are also to be used by the community, representative civic and recreation leaders should be included in the planning. This process is necessary to enable architects and engineers to create functional facilities. In brief, those engaged in planning such structures should encompass all who will be expected to use them.

Important also is the visitation of stadium planners to structures already completed, so that both good and bad features of erected edifices may be studied. In addition, state

and local building codes should be consulted.

For the purpose of this discussion, the terms "spectator structure" and "seating structure" include both permanent and temporary outdoor seating facilities, while the word "stadium" refers only to permanent accommodations.

Spectator structures provide seating from which people can satisfactorily view athletic events without inhibiting the activities of the participants. However, the possibility of employing spectator structures and fields for other purposes also warrants careful consideration.

Seating structures can be justified more readily if they have multiple use. In addition to serving athletic contests, these facilities are used for patriotic observances, plays and

pageants, Easter sunrise services, anniversary celebrations, conventions, lectures, commencement exercises, mass meetings, demonstrations, exhibits, large religious assemblies, parades, drills, and band concerts.

The space underneath a stadium may provide physical education service and activity areas such as dressing units, classrooms, rifle and archery ranges, bus storage, and handball courts. These facilities should supplement rather than duplicate existing units.

To realize maximum utility, the possibility of satisfying the facility needs of other aspects of the physical education program should be considered. Representatives of groups affected and others who can contribute should participate in the planning.

**Seating Capacity.** If possible, the seating capacity of a stadium should be sufficient to meet present needs, with plans for expansion to satisfy predicated needs for a period of at least 20 years.

The number of seats required will be influenced by: the sports served; enrollment of the school or college; population and socio-economic status of the town, city, and region; available public and private means of transportation; and planned expansion of the program.

The provision of an excessive number of seats should be avoided because construction and mainte-

**T**HIS comprehensive treatise on stadium design is reprinted from The Athletic Institute's magnificent volume, "Planning Facilities for Health, Physical Education and Recreation." Illustrated with photos and detailed blueprints, the book offers the latest ideas on the functional development of all types of sports areas. It may be purchased for \$2.50 from The Athletic Institute, 209 S. State St., Chicago 4, Ill.



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There will be approximately \_\_\_\_\_ participants.

We do \_\_\_\_\_, do not \_\_\_\_\_ offer table tennis all year.

Table Tennis is part of our \_\_\_\_\_ program.

There are \_\_\_\_\_ in our school or organization.

nance costs make it impractical to provide accommodations that are seldom used.

**Design.** The accepted shapes of spectator structures, as shown, are influenced by the nature of the sports to be accommodated, the proposed capacity, economy of construction, and the requisites for a favorable view of the contest.

The rectangular design is most common because of its simplicity. The structure consists of successive parallel tiers of seats and can be of permanent or demountable construction.

The crescent design places the greatest number of seats opposite the center of action. This design resembles a rectangular stand, with the back corners eliminated by a gradual arch extending from the front ends to the back center.

Another design, which is a variation of the crescent, provides the greatest number of tiers between the two 40-yd. lines of a regulation football field and then reduces the number of rows in a stair-step fashion between the 40- and 30-yd. lines, and between the 20-yd. and goal lines. Removable stands can be arranged in this manner, but the crescent shape is usually restricted to permanent construction.

The horseshoe and muleshoe stadiums are similar. The muleshoe design resembles a "U" with opposite sides parallel, and one end enclosed by the semicircle of the structure and the other end left open.

Except for bowed tiers, the horseshoe and the muleshoe stadiums are similar. The bowed tiers are intended to face spectators toward the center of activity. The open end permits inclusion of a 220-yd. straightaway for track and provides additional space for field events.

The bowl-type stadium completely encloses the playing field, and the tiers may follow the curve of an ellipse or they may be parallel on the sides and semicircular on the ends. This design is used most commonly to accommodate large crowds. Some planners, however, have preferred to erect a second deck rather than to enclose both ends of a structure, thereby making possible the inclusion of track facilities and locating a greater number of seats nearer the center of the field.

The "V" or modified "L" design orients two rectangular structures to form a right angle. Often the two are joined by a curved portion. This design is especially applicable for baseball seating.

The various shapes or designs

previously mentioned should be applied to meet specific needs in terms of activities to be served and desired seating capacities. The use of fields and spectator structures for more than one sport affords maximum utility for money expended.

Some sports are particularly adapted to the use of common areas and facilities. The single spectator structure for the combined football-track area is common. Spectators at games such as soccer, field hockey, speedball, and lacrosse also may be served by seating facilities for football.

Such multiple-purpose use is desirable except for those activities which are not adaptable to this usage. Planners should make certain that the activity field area is large enough to satisfy the space requirements set forth in the official rules for the various sports.

#### ADAPTABLE FOR FOOTBALL-TRACK

**Football-Track Area.** All of the designs mentioned previously, except the "V" or modified "L," can be adapted to seating structures for football and track. When less than 10,000 persons are to be accommodated, the rectangular design is desirable.

For small crowds, the structure should occupy the centermost portion of the area opposite the field, but as capacity increases, the structure is extended toward the goals. In no event should the structure be placed closer to the boundary or playing area than provided for in the official rules.

Stands can be erected on the opposite side of the field to provide for additional and more favorable seating. If necessary, seating accommodations can also be provided at the ends of the field.

Rectangular spectator structures can be permanently located, be demountable, or be mobile. Demountable or mobile units are sufficient for small crowds or when used as

supplementary to permanent facilities. These units may be transferred to other areas where seating is required, thus affording maximum utility.

Rectangular spectator structures provide the most practical seating accommodations for: baseball, softball, soccer, lacrosse, and other field games; tennis, outdoor basketball, volleyball, and other outdoor sports; and activities or demonstrations.

For baseball, a structure can be located parallel to either or both the first- and third-base lines. The most favorable view of tennis is from behind the ends of the courts.

Seating facilities for other outdoor events should be adjacent to the activity area and as near as possible to the probable center of action consistent with rules provisions.

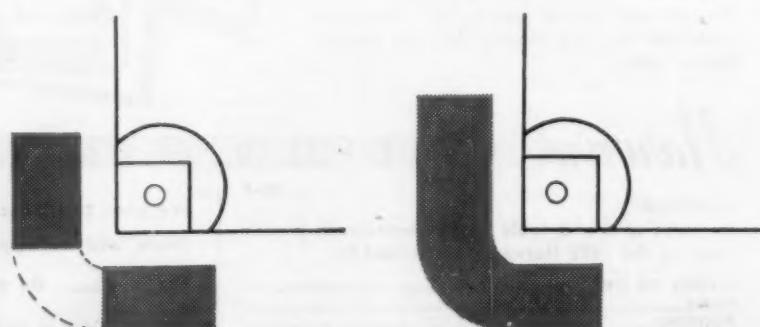
Track-and-field spectator seating generally is parallel to the straightaway for the dashes. Some planners, however, have located spectator seating so that the structure gradually angles in toward the straightaway end of the track.

The front end of the structure nearest the starting line should be farther away from the track than the front end nearest the finishes. This arrangement faces the spectators toward the most common center of continuing action.

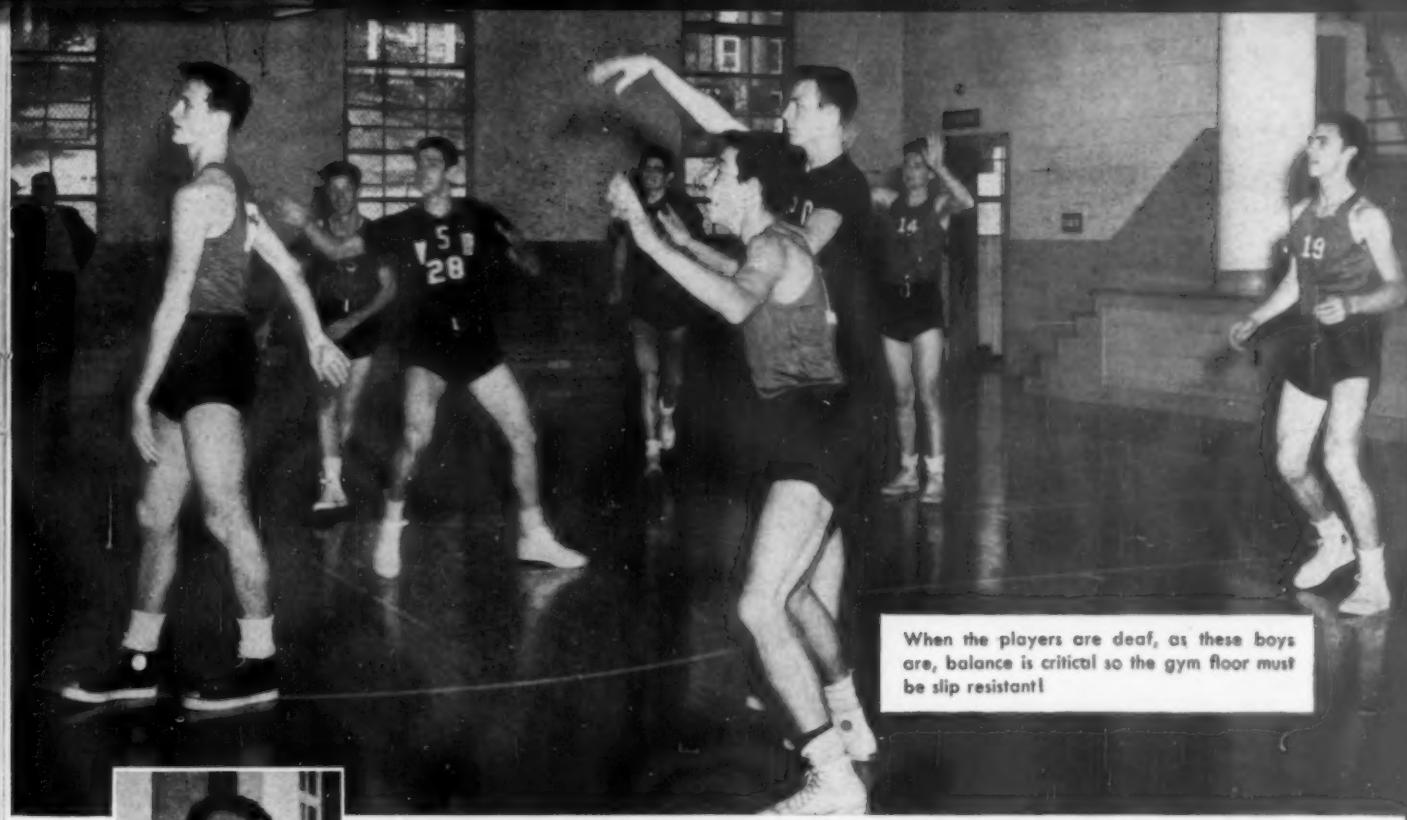
**Softball-Baseball Area.** The combined use of a stadium for softball, baseball and football often results from the desire to use existing floodlighting. In most instances, sufficient seating facilities can be provided with a small permanent structure or by relocating demountable or mobile bleachers used for football.

The combination baseball-softball field should be avoided if possible. The superimposing of an infield upon a portion of the gridiron makes playing conditions undesirable for sports such as football and soccer.

The baseball or softball field could be located behind the lighting sys-



The "V" and the Modified "L" types of structures.



When the players are deaf, as these boys are, balance is critical so the gym floor must be slip resistant!



John T. Floyd  
Business Manager

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tem of one side of the football field, and the floodlights moved to partially illuminate the diamond. The same poles and floodlights can be used for both areas.

Separate cross supports are necessary to permit adequate light focusing for each area. Bracket attachments on the cross supports allow detachment and relocation of lights to serve the sport in season.

## SITE AND LOCATION

Spectator structures should be easily accessible to the users. These facilities should be on the school or college site and near the gymnasium so that locker, shower, dressing, equipment, and other service facilities can be used.

Duplication of existing adequate facilities increases costs of construction, operation, supervision, and maintenance. Traffic movement and parking requirements also should be considered in site location.

Cities with two or more secondary schools should consider the construction of one stadium for their combined use. Teams from each school may practice on their own fields but play their regular games at the stadium. If possible, the structure should be located on or adjacent to one of the schools' sites for the reasons of greater accessibility, maximum use, and more efficient maintenance, operation, and supervision.

A primary requisite for a satisfactory site is adequacy of size. The site must be large enough to accommodate the play and safety areas for the sport or sports to be conducted, the proposed present and future seating, and service areas. The site should be flat or easily leveled.

However, natural inclines of the topography can be used for support or partial support of a structure. Surface drainage of the site and adjacent areas, and the subsurface soils and geological formations should also be considered.

## REMOVABLE AND PERMANENT SPECTATOR STRUCTURES

Permanent spectator structures are those designed and constructed to remain indefinitely at a given location. Removable seating structures are designed and constructed to permit dismantling and/or moving for storing or use at different sites.

The most common temporary structure is the type that can be dismantled and moved in its component parts. Wheels have been attached to small sections of spectator

structures so that the entire section, without disassembling, can be rolled to the desired location. Several units can be placed together to create the required number of seats. Temporary bleachers can also be moved to meet the seating requirements of seasonal sports.

## DECKS AND DECK SUPPORTS

Wood, steel, and concrete, or combinations of them, are the most common materials used for construction of decks and their supporting members. The materials used are governed by the expected capacity, intended use of the structure, availability of funds, climatic conditions, and desired aesthetic qualities. If service and other facilities are included underneath a stadium, a solid, continuous, and waterproof deck of either metal or concrete is necessary.

Wooden treads and risers often form the deck when the underneath area is not utilized. A hard surface under free-standing structures will improve sanitation and expedite cleaning after stadium use.

Where the topography permits, construction costs may be reduced by building the stadium deck upon an embankment. Stadium decks resting upon the slope of an incline may average 1/3 to 1/2 the per-seat cost less than those with similar decks built on concrete or steel frame construction on level sites.

## SIGHT LINES

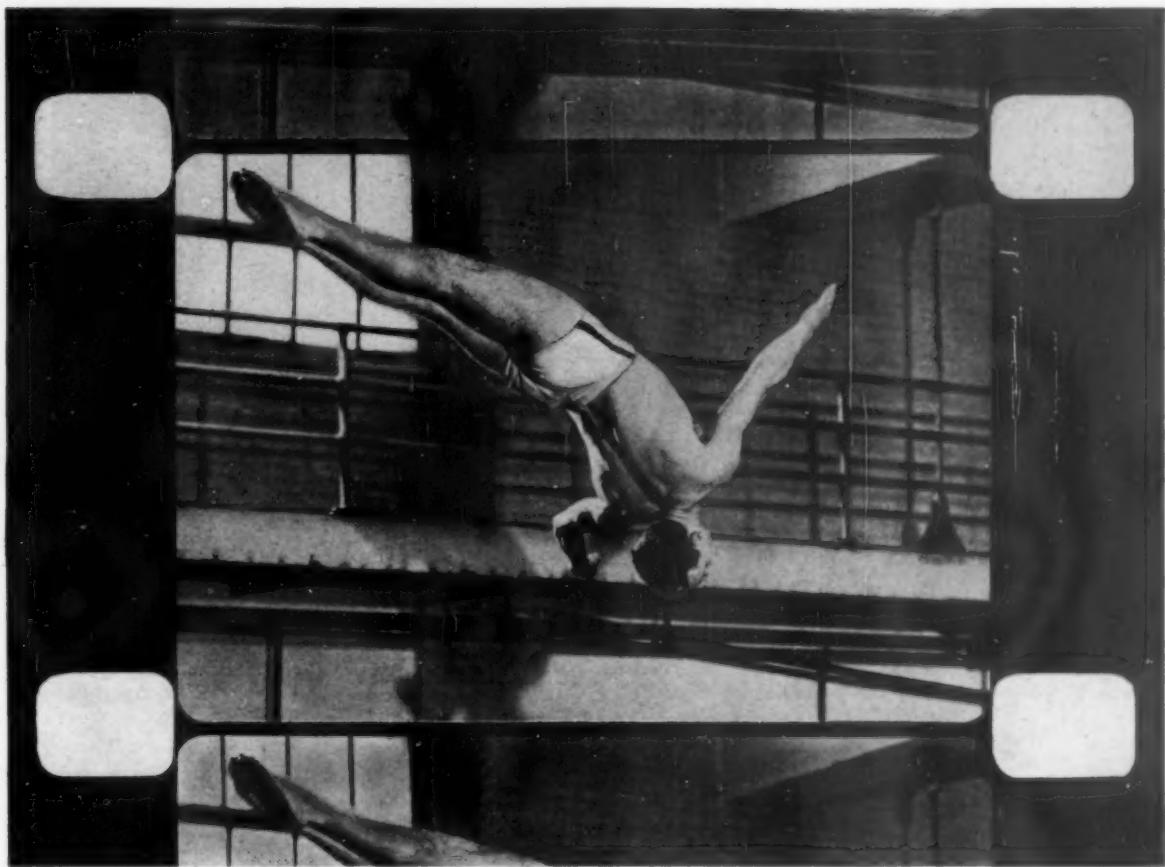
Seating facilities are constructed to provide spectators with a good view of the performance. Nearness and an unobstructed sight line to the desired points affect the quality of the accommodations.

A sight line is a straight line from the eyes of the seated spectator, over the heads of others below, and to a point on the field that represents the spot nearest the structure that should be in his field of vision. For football, the focal point should be the nearest side boundary line; for track, about knee-height of the runner in the nearest lane; for baseball, several feet behind the catcher; for side tennis seating, four feet in toward the seats from the doubles boundary line; and for end seating for tennis, ten feet behind the baseline.

These are minimum recommendations. Light poles, fences, and rails should not obstruct the sight lines.

The focal points of the sight lines from spectator structures with risers and treads of constant dimensions vary for each row of seats, moving closer to the center of the field as

(Continued on page 68)



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The building itself covers 1.6 acres of ground, while the roof shelters 2 acres. The main arena is clay-floored and measures 300 x 170 feet. Under the dome, football, baseball and track practice, basketball games, ROTC drill sessions, and a variety of college and public activities can be held.

Indicating the scope of the building's versatility is the fact that rodeos, livestock shows, and a musical production have already been staged in it.

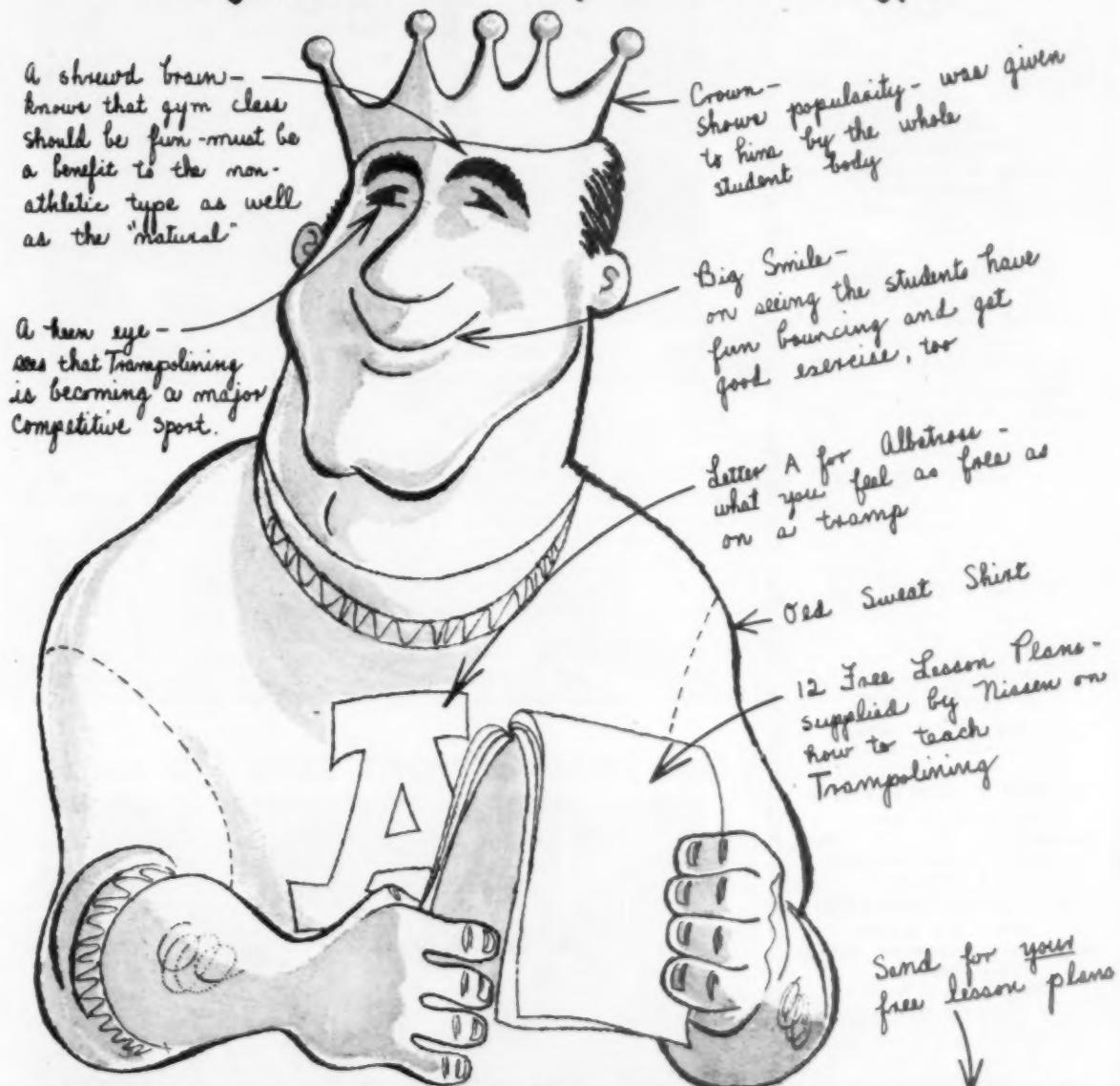
A portable floor of regulation bas-



Front view of the massive circular laminated wood structure showing the main entrance housing the concourse, foyer, and offices of the coaching staff.

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rooms, concession stands and a kitchen, locker rooms, public lavatories, and a main concourse.

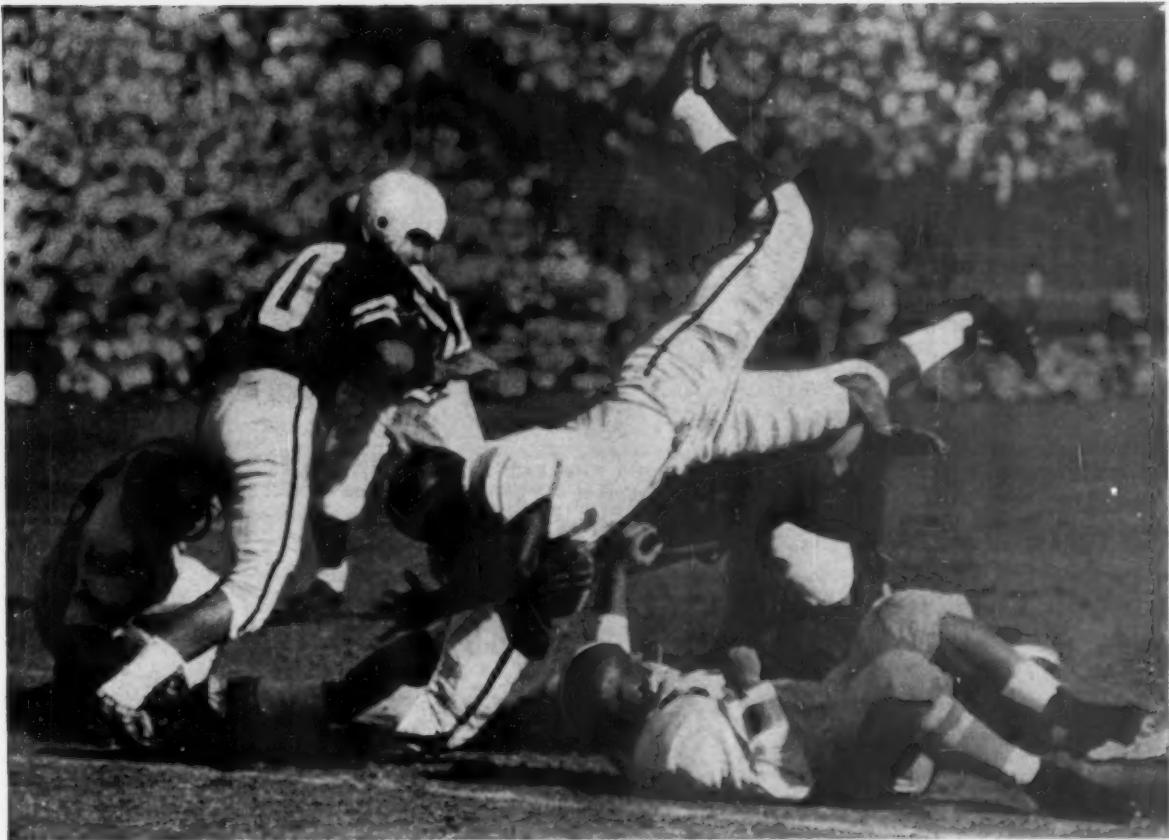
Unique in the northwest not only because of its size and structural system, the versatile building also boasts superior lighting, ventilating, and acoustical equipment.

The heating and ventilating system contains 18 large units which

(Concluded on page 77)



Section of storage room where whites (athletic supporters, socks, T-shirts, etc.) and the regular equipment are comfortably stored.

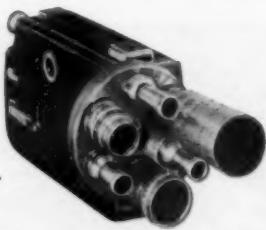


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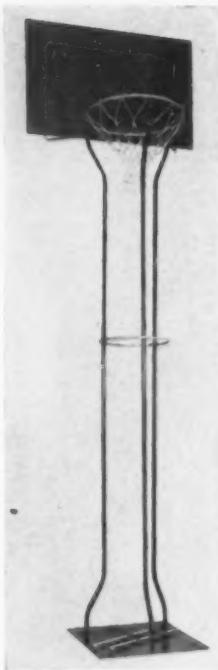
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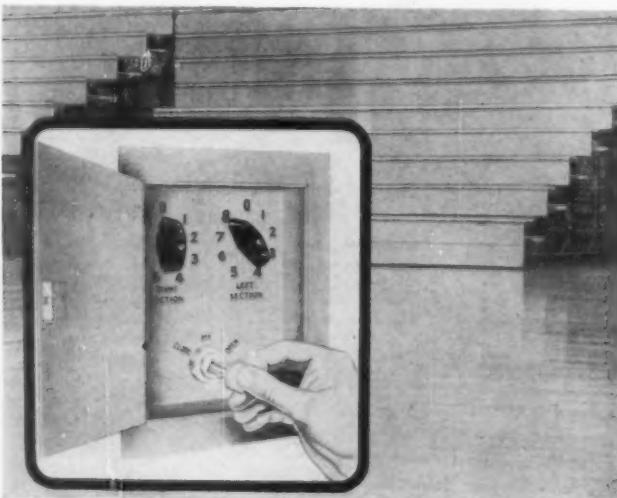
• PORTABLE GOAL. Adjustable to all age groups, Sta-Rite's "Adjustagoal" is light enough to be moved about by anyone yet cannot be upset by thrown balls. All-steel, can be adjusted to 6' 8", 8' 4", and 10' heights.



• MAGNETIC SCOREBOARD. Visible at over 300', Program Aids' "Score-King" is based entirely on magnetic principles, requiring no electricity or maintenance! All-steel, lightweight, and portable.



• PERMANENT BASEBALL BACKSTOP. Austin Fence Co.'s "Spear Point" backstop is of extra heavy construction; all fabric covering of 85,000 lb. tensile strength rust-resistant steel. Front opening 30'; heights: 12' sides, 14' canopy.



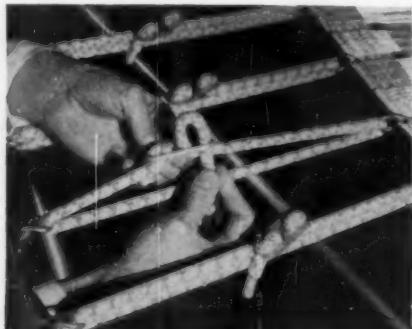
• POWER-OPERATED TELESCOPIC GYM SEATS. Completely self-contained within seat units and remote-controlled. Medart's key-operated control switch opens and closes any gym seat section in a few seconds with a setting of dial indicator and turn of constant-pressure switch key!



• ALLOY VAULTING POLE. Stronger than steel yet weighing only 4 lbs., Aluminum Athletic's "Sky Ride" possesses more whip and lift than any pole. Lightweight, it's tapered to assure vaulter a firm effective hand grip.



• COLORED-TOP SOCK. Wigwam's "Foot Hugger" features a white foot with two 1" stripes at top in any of 10 colors.



• ADJUSTABLE SHOCK CORD enables you to repair any broken cord in otherwise good condition. Developed by Nissen Trampoline Co. for use on all sizes of tramps, it permits athlete to adjust bed to his specific requirements; and can be attached directly to metal grommets on the bed.

# *justly, the pride of six communities!*

New Senior High School of the Chambersburg Joint School Authority, Chambersburg, Pa., serving six school districts. Architects: Lawrie and Green, Harrisburg, Pa.



One of many splendid features—this ideal multi-purpose gymnasium, end-result of the meeting-of-minds of 36 forward-looking school directors.

## *Floored, for a long future, with* **NORTHERN HARD MAPLE**

The endurance, resilience and brightness that have made Northern Hard Maple flooring virtually the universal choice for gymnasium and multi-purpose rooms, make it ideal for other hard-usage school areas. It fights abrasion and impact, doesn't splinter. Cleaning and maintenance are easy. Refinishing, when finally needed, is simple (there's always a "new floor" underneath). Specify Northern Hard Maple with the confidence it has earned. It is available in regular strip or in block and pattern designs, in standard, warranted MFMA grades, offering almost endless variety. The MFMA mill-mark is your warranty of strict grading, genuineness of species and precision manufacture.

*the finest  
floor  
that grows*

SEE SWEET'S  
—Arch. 13J-Ma, for full  
technical data.

**WRITE**

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listing of approved floor  
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SUITE 566, PURE OIL BUILDING, 35 EAST WACKER DRIVE • CHICAGO 1, ILLINOIS

# NEW EQUIPMENT

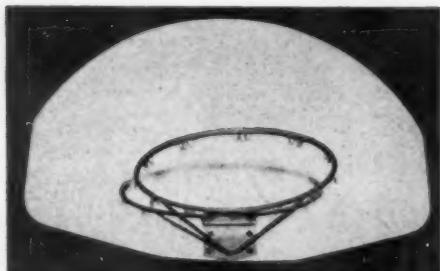
For full details on any or all of these products, check the respective listings under "NEW EQUIPMENT" in the master coupon on page 88.



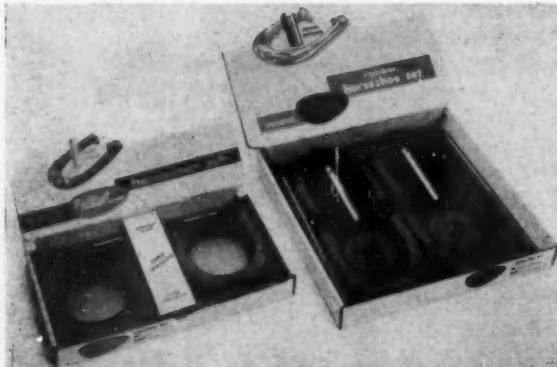
• PORTABLE BATTING CAGE. Porta Stop's cage features lifetime tubular frame built in interlocking sections for quick erection and knock-down, quality net backstop, and 9' by 8' overhang that smothers fouls. Can be erected in less than minute and moved anywhere without dismantling.



• NYLON BALL-CARRIER. Made from extra-heavy 100% braided nylon cord, Jayfre's all-purpose ball-carrier is washable and weather-resistant and holds as many as 8 balls. Perfect for carrying balls from gym to field. Comes in two models—one for all-purposes and other (with tighter mesh) specifically for footballs.



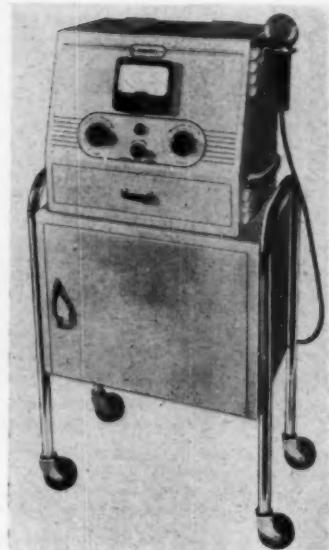
• ALL-WEATHER BACK-BOARD. Fabricated from double laminated Preswood with special heavy  $\frac{1}{2}$ " goal, Rawlings' new fan-shaped board and goal won't rust or corrode.



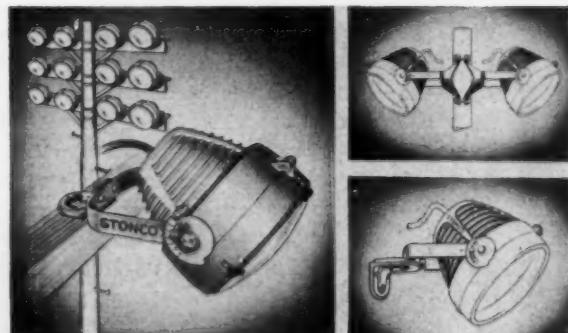
• HARD-RUBBER HORSESHOE SET, sold by General Sportcraft, contains two pairs of red and green hard-rubber shoes, two large rubber mats for indoor play, and two 16" red-painted stakes. For outdoors, set at left features just shoes and stakes.



• FOUL INDICATOR. Mohawk's device for indicating each team's number of personal fouls features strong chrome-plated holder with 9" numerals from 0 to 5, green for home team and red for visitors.

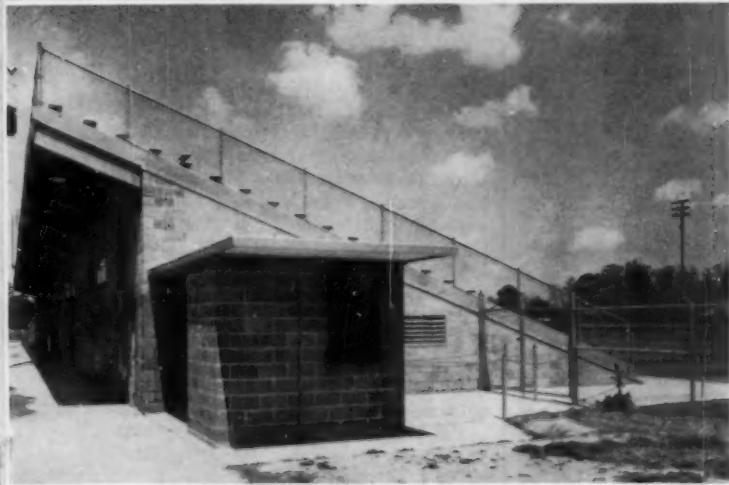
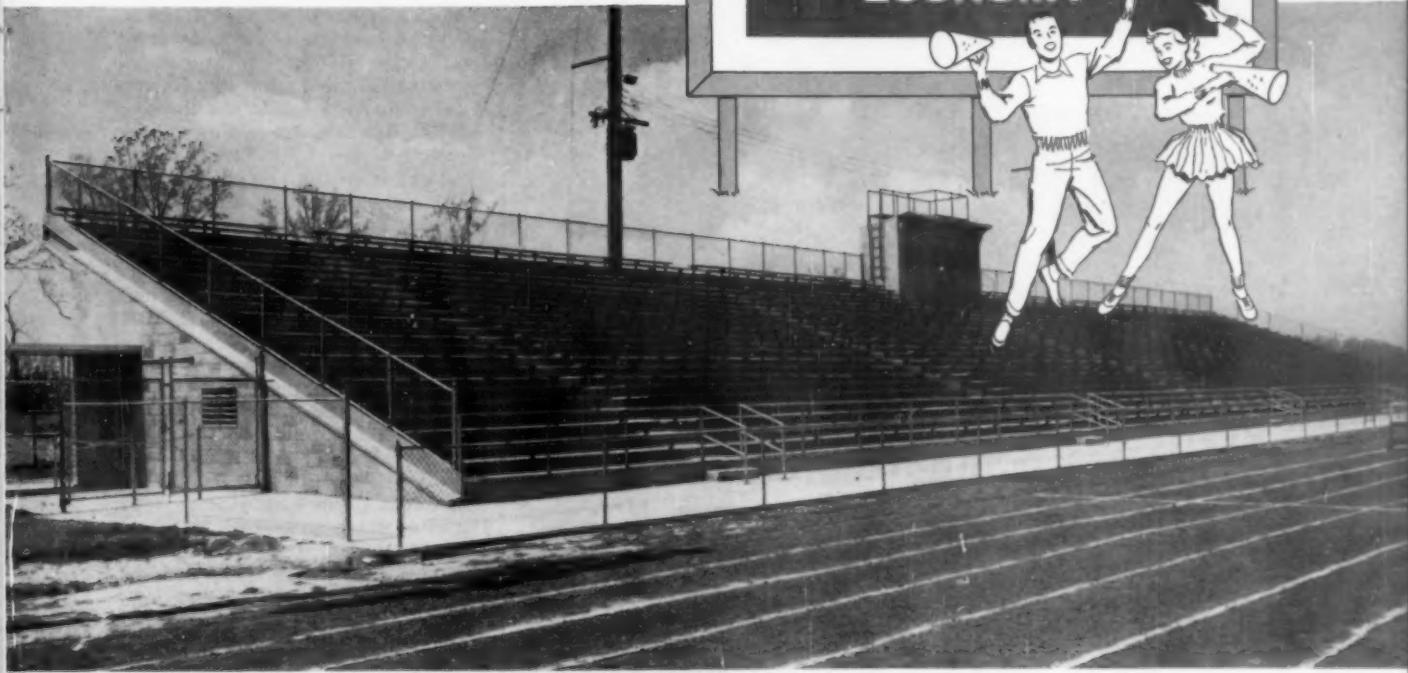


• THERAPY UNIT. Amazing ruggedness and serviceability characterize Dakon's ultra-modern precision-engineered ultrasonic generator. Hermetically sealed for use in underwater treatment.



• POWERBEAM FLOODLIGHT: Stonco's Sportslighter is smaller and more compact than conventional types and offers higher lighting levels with lower initial equipment and maintenance costs. All units are sealed weatherproof with aluminum covers and protective sealed lenses.

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*They  
Shoulder  
the Load*



Hugh McElhenny, star back of the San Francisco 49ers, is a member of the Wilson Advisory Staff.

## Wilson T-Square Shoulder Pads

Wilson T-Square shoulder pads won't do the blocking and tackling, but they'll make it easier for the player who does. The T-Square shoulder pad is an exclusive Wilson design that provides durable, shock absorbing Ensolite construction with *perfect fit*. Shoulder pads that help get the job done without interfering with body movement—shoulder pads so strong and so well built they'll last for years.

Wilson Shoulder Pads are available in a wide range of styles—designed for perfect fit in all sizes, all ages from grade school up. Priced to fit all budgets, too!

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**Win With Wilson**  
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Fastest Nationwide service from 32 Branch Offices.



### New Basketball Scorer

FOR RULE 10—SECT. 7—DIV. C

Keeps officials straight at all time on the personal foul situation. Just what is needed to cover this rule change. Quickly, easily and accurately operated.

Strong, chrome plated holder with two color 9" numerals from 0-5 (Green for Home team and Red for Visitors).

A strong case for storage and protection.

The manner in which the fouls are shown on the scorer creates a great deal of interest among the spectators.

PRICE \$12.75 plus postage. Order direct

**MOHAWK VALLEY SPORTS INC., Little Falls, N.Y.**

### "Here Below"

(Continued from page 5)

lost every one of our starters, and we're now going with seven sophomores, two seniors, and two juniors. Four of my starters are sophs.

"Don't get me wrong. They're good kids who are going to be great next year. But it's pretty rough trying to handle a team like Kansas with so many sophs in the lineup."

When did he start "pointing" for Kansas?

"Right from the beginning of the season—though my kids didn't know it. I had them try the 3-1-1 zone press in every game to get them used to it. But I didn't tell them it had been designed specifically for Kansas. I wanted to keep them as loose as possible."

"The Thursday before the game we held a 90-minute meeting, at which time I told them exactly how we were going to play Chamberlain. Then I asked for suggestions. We had a real fine meeting and the kids left it all fired up, just the way I wanted them to be."

BY this time Kansas was jogging onto the floor and it was time for Jack to get his own club ready. We gave him our best wishes and plodded to our seat for our first look at Chamberlain.

At first glance, he didn't impress. He looked like an out-sized crane, much too thin to stand the gaff underneath the boards. But his appearance proved deceptive. A closer look revealed that while his legs are undoubtedly on the stringy side, his arms are beautifully muscled and his chest and shoulders quite rugged.

In his warm-ups, the big boy kept the crowd oohing and ahing with a fantastic series of front and back dunks. Now we've seen any number of players dunk the ball, but not like this boy. He made it seem ridiculously easy. He appeared to get at least two feet above the hoop and then drown his hands in the net with his stuffing action!

Wilt then moved to the outside and displayed a nice one-hand set shot. It was quite an exhibition—but just that, an exhibition. We wanted to see him do it with a couple of guys draped around his neck.

THE crowd let out a roar—which never was to diminish—as the official called for the opening jump. St. Joe's then sprung its first surprise. It lined up with its smallest man in the circle.

Ramsay had prepared us for this. "What's the point of pitting my center (who's 6-9) against Wilt? He couldn't possibly out-jump him. By keeping my big men front and back, we stand a better chance of stealing the tap."

As it turned out, Wilt tapped the ball way back to his defensive circle, where one of his guards was waiting for it. And so the battle of wits began.

One thing became immediately apparent: St. Joseph's had been coached to the eyebrows. They knew exactly what they had to do and went about doing it to the very best of their abilities.

The two tallest Hawks immediately sandwiched Chamberlain, while the three smaller men zoned up on the four other Kansans. Chamberlain made little effort to break out of his double entrapment. We looked for him to move from side to side or to cut to the end line and button-hook back. But he just stayed put.

His teammates moved the ball nicely, keeping it away from the three madly scurrying zone defenders. A dozen easy side shots presented themselves, but were refused. Finally the ball was lobbed into the pivot—and the crowd screamed as St. Joe intercepted it.

The Hawks immediately went into their 3-out 2-in pattern and began moving the ball in exactly the fashion outlined to us before the game.

THAT was the pattern for the first 16 minutes. The Jayhawks kept disdaining their easy shots and kept looking to feed Chamberlain, while the Hawks kept withholding the ball and trying to move Chamberlain out of the middle.

When Kansas did manage to get the ball to Chamberlain, it was positively awe-inspiring to see what the big boy did with it. He'd take one step to the basket and stuff it right in, or catch the ball in the air, turn, and stuff it into the hoop on the way down!

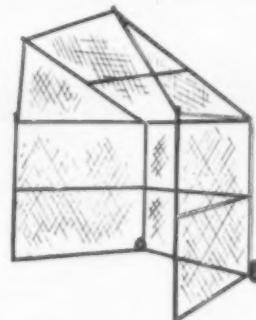
But Kansas was finding it tough to get the ball between the defensive sandwich. Meanwhile St. Joseph's was playing a beautifully controlled game. They'd move the ball from side to side waiting for a good shot. And when it came, they'd invariably capitalize on it.

The partisan crowd went crazy as the Hawks forged ahead. With four minutes of the half remaining, they led 22 to 18. Then we noticed a subtle change in their offense. Perhaps unconsciously, they began stalling. Instead of moving the ball

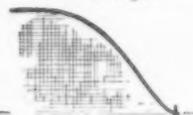
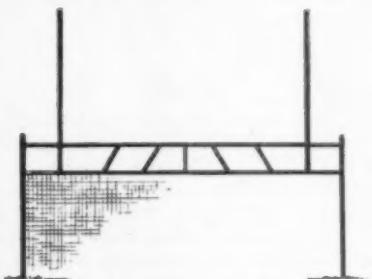
(Continued on page 81)

# AUSTIN FIELD EQUIPMENT

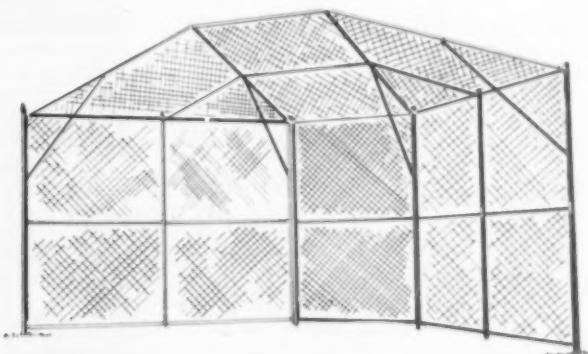
**Unsurpassed for Quality,  
Durability, and Economy**



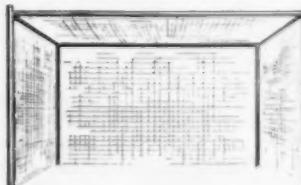
**PORTA-WELD JR. BASEBALL BACKSTOP**, extra heavy galvanized construction, built to last for years. Rolls on ball-bearing rubber-tired wheels. Front opening 10' wide, 9' high. Senior model 12' wide, 10' high.



**COMBINATION FOOTBALL-SOCCER GOAL**. All-welded galvanized construction. Bridge type truss tubular frame. Practically indestructible. When used as soccer goal, netting is fastened to lower section of goal and two wings are slipped into sockets at either end of goal; heavy spike secures lower end of wing to ground.



**PERMANENT SPEAR POINT BASEBALL BACKSTOP**. Width at front 30'; height at sides 12', at canopy 14'. Extra heavy construction. Fabric covering is of special analysis rust-resistant steel. Pipe and fittings are hot dip galvanized. Sets permanently in concrete.



**FIELD HOCKEY GOAL**. All-welded construction makes this goal extremely rigid. Tubular frame is heavily galvanized. Goal fits into galvanized sleeves set in the ground, making it easily removable.

Also manufacture rolling uniform hangers, flat backstops, adjustable mat racks and new field and track drags. Write for complete details and specifications or check master coupon on page 87.

**AUSTIN FENCE CO., Inc.,** 701 Bedford Ave., Bellmore, N. Y.

# SWIMMING POOL

## POLICIES and PROCEDURES

WITH the advent of more functionally designed types of facilities, the school swimming pool is assuming its rightful place within the school curriculum. Indication of its wide acceptance is forcefully demonstrated in Central New York where, within a 35-mile radius, New Hartford, Rome, Lowville, and Carthage have all constructed natatoriums within the past two years.

Statistics indicate the school pool is utilized more than any other teaching station. According to Dr. George Grover, Director of the Division of Health, Physical Education & Recreation, a recent survey in one school indicated that the pool was utilized 25% more than the auditorium and 60% more than the cafeteria. Proper administration in organizing and scheduling is of the utmost necessity to accomplish these results.

A recent survey by the American Institute of Public Opinion spotlights the fact that approximately 14 million men and 31 million women—a staggering total of 45 million—cannot swim! Concordant with this revelation is the fact that there are approximately 7,000 drownings each year.

An investigation of construction and maintenance costs would indicate a gross misconception concerning this expense. Mark Randall, Associate Professor of Physical Education & Swimming Coach at Colgate University, has figures to substantiate this statement.

As a member of the Advisory Committee assisting the N. Y. State Department of Education in the preparation of a brochure on public school swimming pool construction, he has published figures that would be of interest to boards of education contemplating the construction of a school swimming pool. (Physical

Education & School Athletics Newsletter, Vol. 2, No. 2, Sept. 20, 1957, Arthur C. Craft Publications, 100 Garfield Ave., New London, Conn.)

A cost survey completed last year highlights the fact that the average cost per pupil for each swim period is approximately .02. Where else can one receive so much for so little expenditure?

The rapid increase in the number of swimming pools brings the usual problems of organization for proper supervision and usage. It was with this thought in mind that the author made a study of available material as it applied to his situation.

The initial policies and procedures were instigated as a summer school project. After they were compiled and edited by the author, a special staff meeting was scheduled, at which time they were presented to the staff members who would be concerned with their enforcement.

Appropriate suggestions and recommendations by staff members were incorporated in this final brochure. It's expected that frequent evaluation will be made of all policies and that suitable additions or deletions, as dictated by the situation, will be made.

It's hoped that these policies and procedures will prove of some value to readers faced with the problems of a new and wonderful swimming pool.

### Instructor's Qualifications:

1. The person in charge of a swimming group shall hold a current American Red Cross Senior Life Saving Certificate, as a minimum requirement.

2. All teachers within the health and physical education department who teach swimming shall have held, at one time, an American Red Cross Senior Life Saving Certificate

and, at the beginning of each school year, shall demonstrate to the school department head their ability to make a rescue in deep water and apply artificial respiration. Such person may act as an "assistant instructor."

3. Any qualified person as defined in (1) or (2) must also demonstrate his ability to use the resuscitator.

### Safety Equipment Available at the Pool:

1. A minimum of four ring life buoys with sufficient rope attached and arranged for immediate use.

2. A minimum of two shepherd's crooks or bamboo poles on each side wall.

3. Two blankets kept readily available.

4. A first-aid kit in the instructor's office.

5. The resuscitator immediately available in the instructor's office. This should be checked periodically.

### Safety Policies:

1. All safety equipment shall be readily available and in its proper place at all times.

2. Deck of the pool shall be clear of all unused equipment.

3. Safety areas are to be marked by ropes or net to suit the needs of the swimming program.

4. The instructor should always enter the pool area first and be the last to leave the pool area.

5. Doors must be kept locked when pool is not in use.

6. No bather shall enter the pool unless a qualified instructor is on duty.

7. No ONE person is allowed to swim alone at any time. This includes the instructor in charge.

8. Any person entering the pool for the first time shall be checked to determine his ability as a swimmer.

9. A teacher-pupil ratio of 1 to 30 should be maintained in swimming classes.

10. No jewelry is to be worn in the water.

11. There should be some orientation concerning the following previous to the use of the pool. This may be done by demonstration and participation or lecture demonstration:
  - (a) Water depth.
  - (b) Safety equipment.
  - (c) "Horse play."

By HENRY M. VETTER, Health Ed Director, Carthage (N. Y.) Public Schools

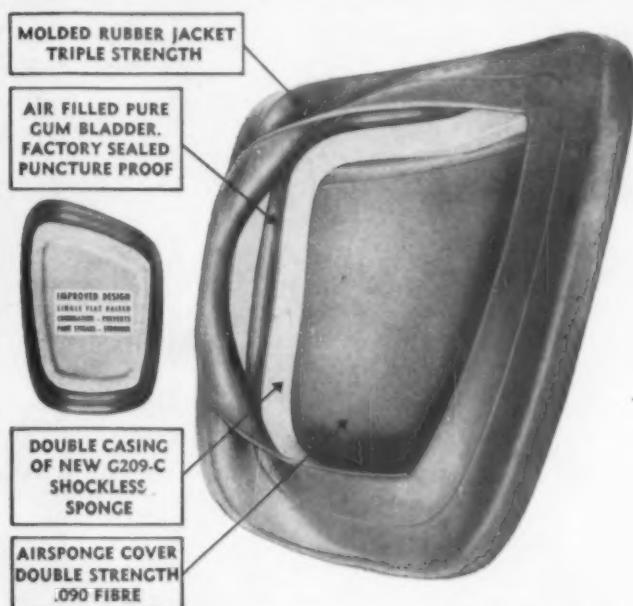
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Three Point Locking Device . . . exclusive with All-American lockers, provides greater sturdiness and eliminates the possibility of theft.

Greater Adaptability . . . Available in 1, 2 or 3 locker units for back-to-back or single row installation . . . full or half length . . . in 4 standard models, or special sizes to meet your needs.



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- First to use inner lining!
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- First to use TD leather for better ball handling in all weather—“tanned-in” grip, no surface coating!
- First choice in Bowl Games!

**Win With**  
**Wilson**  
Wilson Sporting Goods Co., Chicago

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**BASKETBALL  
MODEL N-555**

Illuminated 30" dial, team panels, signal lights and 12½" "Instant-Vue" numerals—automatic reset clock and horn.

ASK FOR FREE CATALOGS: 1S-Basketball; 2S-Football; 3S-Baseball.

**NADEN INDUSTRIES** Webster City, Iowa



- (d) Buddy system.
- (e) Instructions for emergency.

#### General Pool Regulations:

##### 1. Health Practices:

A. All persons using the pool must have a complete physical examination and participation will be subject to the results of this examination.

(a) The school physician will examine all students in the Cathage Central School System.

(b) Coaches of visiting teams must submit a swimming eligibility list from their school physician.

(All others using the pool facilities must submit evidence from their own physician permitting them to swim. This should be on the Doctor's Exam Form provided by the Board of Education.

B. A person is forbidden to use the pool if he or she has:

(a) A communicable disease.

(b) A nasal or ear discharge.

(c) A boil.

(d) Any open sore.

(e) A bandage or band-aid on his person.

(f) An abrasion or infection.

(g) Athlete's foot or ring-worm.

C. All excuses from swimming class must be processed through the school nurse prior to the start of school.

D. Anyone excused from actual swimming shall report to class in regulation gym suit (no shoes).

E. The pool, dressing rooms and showers will be regularly inspected for hygienic conditions and safety.

##### 2. Pool Area:

A. No unauthorized spectators will be allowed in the pool area at any time.

B. No one wearing shoes will be allowed in the pool area at any time.

C. No unauthorized material will be allowed in the pool area (books, candy, bottles, pencils, etc.).

D. Chapter VI of the Sanitary Code established by the Public Health Council of the State of New York is acknowledged as part of these Rules & Regulations.

##### 3. Swimming Regulations:

A. No one is allowed in the pool without authorized supervision determined by the Board of Education.

B. No gum chewing. One of the first rules of safety is to keep the mouth free of any materials to prevent choking.

C. No running, pushing or ducking.

D. No tag games outside of the water.

E. Each group must stay in its designated area.

F. No swimming in front of the diving board.

G. Diving from the end of the board only. After surfacing, swim to either side of pool at once.

H. No fancy diving from the side of the pool.

I. No diving in shallow water except under immediate supervision of instructor.

J. The Buddy System will be used during all recreational and free swimming.

#### 4. Equipment:

A. No personal swimming equipment, such as masks, fins, goggles, etc. will be taken into the pool unless authorized by the instructor.

B. School equipment will not be used without expressed permission from the instructor.

C. Equipment shall be returned to the instructor when the swimmer is through using it or at the end of each class period.

D. Make sure the water area is clear before throwing diving bricks and rings.

E. All bathing caps and personal equipment left in the pool or locker rooms will become property of the school unless properly identified.

#### 5. Pool Cleanliness Standards:

A. Instructors may go barefoot or wear suitable footwear between dressing rooms and the pool, and while on the pool deck. Such suitable footwear shall be reserved exclusively for this purpose.

B. No articles of any kind other than regulation bathing suits, caps, or specially approved equipment shall be worn in the pool.

C. No cosmetics shall be put on the face or body when going into the pool.

D. Girls and women shall wear bathing caps in the water at all times.

E. Urinating, expectorating, or blowing the nose in the pool is prohibited.

#### 6. Preparation for Swimming:

##### A. Girls:

(a) Get your towel and suit from checkout windows.

(b) Lock all your clothes, valuables and jewelry in your long lockers.

(c) Leave your suit and towel in pool drying room.

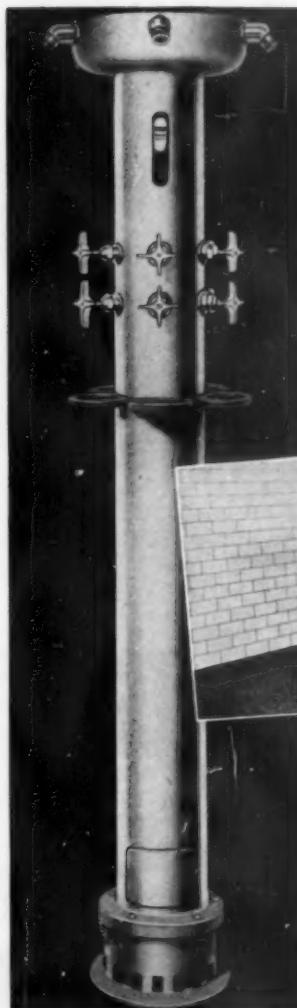
(d) Enter the shower room and take a complete soap shower.

(e) Return to the drying room and put on your suit.

(f) Enter the pool through the pool door.

(g) Wear your cap while swimming.

(Concluded on page 73)



More BRADLEY SHOWER installations

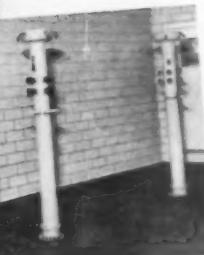
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Central Catholic H.S., Dubuque, Ia.  
Highlands H.S., Sacramento, Calif.  
Girard H.S., Girard, O.  
East H.S., Brockton, Mass.  
Mt. St. Michael's Academy, Bronx, N.Y.  
Rex Mondi H.S., Evansville, Ind.  
Gadsen School, Gadsen, N. Mex.  
Elizabethtown H.S., Elizabethtown, Pa.



Where more privacy is desired,  
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with partitions and curtains too.

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Serves Five  
Bathers



Bradley Column Showers each serve five bathers simultaneously. Where there is a central floor drain, only two piping connections (hot and cold water) are required.

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are economical—each Column provides for 5 showers or for 3 (if placed against the wall). The Columns can be installed alone—or provided with partitions and curtains.

Installation time and expense are reduced because each Column can provide the same bathing facilities as five conventional shower stalls. Only three piping connections (hot and cold water and drain) are required in place of 15. If there is a central drain, only hot and cold water connections are required—a further saving.

Bradley Multi-Stall Showers allow each person to control water temperature and volume as desired. They are ultra-sanitary and require a minimum of maintenance work.

### For New or Existing Buildings

Bradley Showers can be installed readily in new or existing buildings, economically and in shortest time. For complete details and specifications, please refer to pages 22 to 26 of our Catalog 5601, a copy of which will be mailed on request . . .

### BRADLEY WASHFOUNTAIN CO.

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Milwaukee 1, Wis.



Write for latest edition of Catalog 5601

**BRADLEY**  
multi-person  
**SHOWERS**

Distributed Through Plumbing Wholesalers

# Modern Stadium Design

(Continued from page 52)

the rows progress upward (see illustration).

The focal point from each tier can be kept constant by progressively increasing the riser heights. Satisfactory focal points, although not constant, can be provided by locating the structure at a distance from the field that affords a satisfactory sight line from the last row.

As the number of tiers increases, the distance of the structure from the field should be increased. Therefore, the feasibility of this method is limited.

## TREADS AND RISERS

The treads and risers should be as small as possible, but sufficient to provide for comfort and good view. Riser heights may vary from 6 to 18 inches, increasing from front to back in large stadiums. The height of the first riser should be kept to a minimum because it affects the ultimate height of the entire structure, and, therefore, the cost.

The width of the treads is governed by factors of economy and comfort. A minimum width of 24 inches is recommended for treads with backless seats. For structures without continuous seating decks, this measurement should be taken between the front edges of the seating surfaces of successive tiers.

The minimum width for treads supporting seats with backs is 30 inches. Tread widths remain constant except for the first tier, unless there is a railing, low wall, or fence in front, in which case, additional space is required for spectator movement.

Drainage must be considered in the design of treads for solid-deck stadiums. A slope of  $\frac{1}{2}$  to 1 inch toward the front provides for rapid drainage. A gradual lateral tread slope away from entrance portals and expansion joints will minimize the flow of water into these.

Water can flow off the front of small spectator structures, but gutters and drains should be included for large structures, and should be located so as to serve a section between expansion joints. The size of the drain should be based upon the minimum ratio of one square inch to each 300 square feet of deck surface served.

The design of seating facilities is related to comfort, the kinds of events to be viewed, economy, and

maintenance costs. Seats for football spectator structures are usually without back rests. The space allowed for each seat, lengthwise in a row, is generally between 16 and 18½ inches.

For reserved seating, and in climates requiring heavy clothing, the seat width should be a minimum of 18 inches. The preferable minimum depth of a seat is 10 inches. The height of the seats above the foot-support treads should be between 16 and 18 inches.

The seats should be of wood and supported by metal brackets. Redwood, cypress, and Douglas fir can be used for the seats. Resistance to deterioration and splintering should affect the choice.

Seats made up of two or three planks, preferably about 2 inches thick, pitched to the back for comfort and drainage, have less tendency to hold water and to warp. Wood without knots is also preferable.

**General Arrangement of Seats and Aisles.** State and local building codes often establish standards for aisles, entrances, and portals for spectator structures. Planners should be cognizant of such codes. Aisles

may not be necessary in small seating structures.

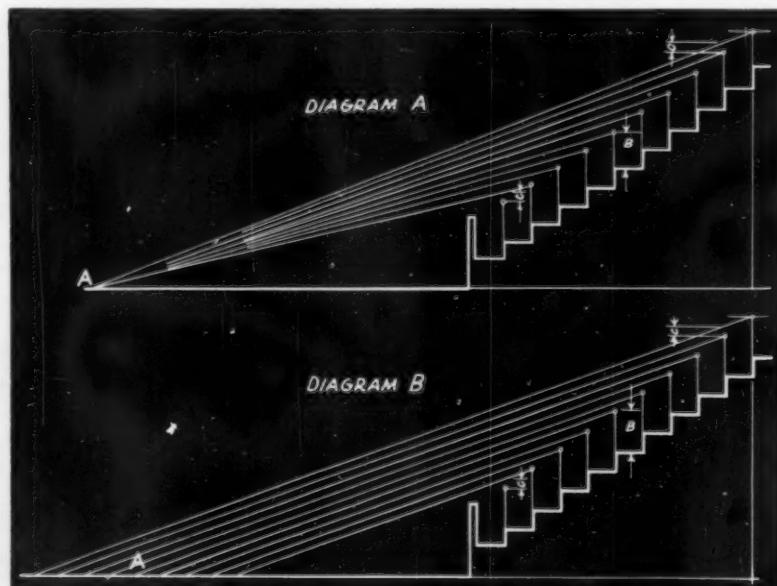
For structures with many rows and large capacities, however, aisles are necessary. Sections between aisles should contain tiers with 24 to 32 seats. The first aisles should be located 14 to 16 seats from the ends of the structure.

Horizontal walks generally are undesirable because persons using them will obstruct the sight lines of others. If such walks are used, the next tread above should be high enough to permit the occupants to look over those persons walking in front of them.

Aisles should have a minimum width of 36 inches, and, if divided by a portal or an obstruction, each side should be at least 24 inches wide. Whenever the riser height exceeds nine inches, an intermediate step is necessary.

## ENTRANCES AND EXITS

The number of portals and exits for a stadium deck depends upon the seating capacity as well as the number of seats in each section. They should permit the dispersal of a crowd within a maximum of 10 minutes. A three-foot transverse aisle that is open at the front or back will permit the passage of approximately 750 persons in ten minutes.



**Sight Lines and Focal Points:** Diag. A shows a seating section with a gradual increase in riser heights. The focal points, "A", are the same for all seats. "B" represents height from a seat eye level, while "C" represents the distance from eye level to the top of a spectator's head. Diag. B shows a seating section with constant riser and tread heights. As the seating tiers progress upward, each focal point is closer to the field. (Courtesy Portland Cement Assn.)

# TOPFLIGHT PERFORMANCE

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- TOP PRIORITY ALLOY
- STRONGER THAN STEEL
- SAVES STORAGE SPACE
- SAVES MAINTENANCE

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- CUTS EVENT TIME
- NEW LOW COST
- DESIGNED FOR SAFETY
- NEW NATIONAL RECORD

**CROSS BARS**

**ALUMINUM  
TRACK EQUIPMENT**



## Hey, Coach!

A swat on the seat of the pants  
is not enough!

You've got to give your boys more recognition than  
that. Do it with a

## FAIR-PLAY

SCOREBOARD WITH NAME PANELS

Player name panels on Fair-Play scoreboards provide slots for names and numbers of 12 players for each team. Spectators know who's in the game. Panels are reversible, too, so you can show lineups for your preliminary game. Ideal for tournament use. Panels suspended with pulley-and-cord system. Easy to drop panel to floor, change lineup (or reverse it for second game) and raise into place again. Panels fit existing Fair-Play installations, too.

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Des Moines 2, Iowa

PLAYERS	MINUTES	SECONDS	PLAYERS	MINUTES	SECONDS
37 BROWN	.	.	33 JONES	.	.
18 JOHNSON	.	.	23 BURNS	.	.
31 WEST	.	.	13 SMITH	.	.
16 SWIFT	.	.	22 JACKSON	.	.
39 MEYERS	.	.	27 IRWIN	.	.
28 WATERS	PERIOD	.	38 WILLIAMS	.	.
14 YOUNG	FIR-PLAY	.	21 RODGERS	.	.
10 BAKER	HOME	VISITOR	32 RILEY	.	.
11 DOYLE	NEXT	HOME	28 ALLEN	.	.
12 KENT	VALLEY	VS EAST	25 PERRY	.	.
17 LOGAN	SEPTEMBER	26	17 CLARK	.	.
24 KING			20 MILLER	.	.

**King-O'Shea**  
Custom Tailored Uniforms.

The look of a King-O'Shea dressed team is classic in appearance and design. Their uniforms are tailored for every move in football.

The look of a King-O'Shea dressed team is a look—a feel of confidence. They know they're dressed the best and they play that way.

One pant detail among many: the proper placement of pads and pad pockets. They're always in correct position regardless of size 32 short, 36XL, or what-have-you. A King-O'Shea Custom Tailored Uniform doesn't fit just anybody—it fits Mr. Somebody—and fits him exactly.

*That's why the coach who wants a King-O'Shea dressed team plans ahead, orders early.*

# King-O'Shea

CUSTOM BUILT ATHLETIC EQUIPMENT

River Grove, Illinois

Entrances and exits for structures should be located for accessibility and be adequate in size and number for crowd dispersal. When entrances and exits are located at the front of a structure, a low fence or wall should separate the walkway from the playing-field area. The first tier of seats should be high enough to allow the occupants an unobstructed view.

The ends, backs, and, in some instances, the fronts of the seating structures should be bordered by walls or a railing. These walls or railings should extend at least 42 inches above the treads and be designed to prevent spectators from sitting on them.

#### COMMUNICATION FACILITIES

Inasmuch as schools, colleges, and recreation departments endeavor to maintain close and friendly relations with the public, facilities to accommodate the press, radio, television, and motion-picture groups are essential in modern stadiums. Facilities for public-address and scoreboard operators, spotters, scouts, and other officials or dignitaries should also be included.

The football press-box unit should be located opposite the 50-yard line high in the west stand to eliminate interference from sunlight. Baseball press boxes usually occupy some portion of the stand behind home.

The facilities for football and baseball often serve other activities that occur in the area. In cold climates, it is desirable to enclose the front of the box with glass for the comfort and convenience of the occupants. Booths for cameramen should not have glass windows.

Broadcasting units should be soundproof. One booth should be provided for the public-address announcer and spotters, the scoreboard operator, and perhaps the home-team coach who relays information to the players' bench. The section for sports reporters should include chairs and a continuous desk about 18 inches wide, with a minimum of two linear feet of work space for each person. Heating, electrical outlets, telephones, and other service features should also be provided.

Scoreboards are essential for football, softball, and baseball fields. Time clocks also are desirable for football. It is advisable to have the scoreboard, especially in larger stadiums, designed as an integral part of the structure.

For activities attracting a small number of spectators, mechanical or movable scoreboards may be practical.

The availability of electricity, gas, water, and sewer connections significantly affects the use and validity of a spectator structure. The concession center, press-box area, rest rooms, scoreboard operation, field illumination and watering, and many other functions depend upon one or more of these utilities. A careful investigation should determine the locations and requirements for them.

The major circuits or lines serving the stadium area should have the capacity to accommodate the demands from all sources during conditions of peak load. Furthermore, the system should be designed to permit anticipated expansion of the structure.

Planners should create a spectator structure that is in keeping with the architectural and aesthetic beauty of the campus or site and the neighborhood. Fencing and parking, therefore, are more than service considerations.

If admission is to be controlled, fences should encircle the spectator structure and the field area. The enclosure should be large enough to accommodate all service facilities to be provided for spectators, such as concessions, rest rooms, the first-aid room, and the like. Landscape architects often use vines and other vegetation along fences to create an attractive environment.

To permit the orderly exit of the crowd after a contest, supplementary gates should be available. At least one gate should be large enough to accommodate trucks and buses. It should also be served by a gravel or paved drive.

Off-street parking areas, in most instances, are necessary. Planners should provide an area that can be used for daily parking by students and faculty, as well as for special events and athletic contests; therefore, accessibility of the site is important. Fields for physical education activities should not be used as stadium parking areas.

With an allowance of 300 square feet of space per car, one acre of land will accommodate 145 cars. The parking, fence, and gate areas should be illuminated for control of night events.

#### LOCKER ROOMS AND STORAGE

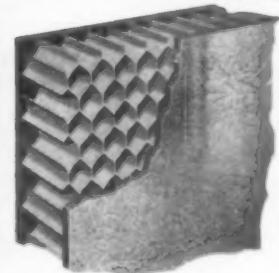
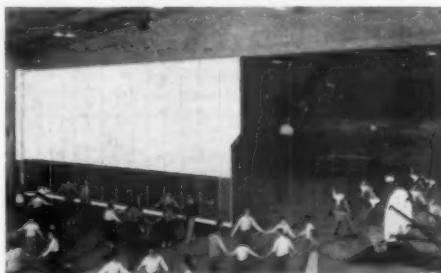
If the athletic field is located near the school building, gymnasium locker rooms, showers, storage rooms, and offices can be used.

When the field is not close to the school, or if existing facilities are inadequate, a field-service building should be erected or included under the stadium. It should provide for

**DIVIDE valuable floor  
area . . .  
RETARD bothersome  
noise transmission  
with**

## R-W Fold-R-Way<sup>®</sup> ALUMINUM PARTITIONS

R-W Aluminum Partitions provide modern styling, beauty and efficient, dependable operation by combining the latest in structural design with the added strength and beauty of Aluminum. R-W partitions offer many outstanding advantages: added strength with less weight; lower structural design costs; lower upkeep costs and the elimination of decorating and refinishing costs. The exclusive R-W Floor Seal Mechanism automatically and effectively retards noise transmission, prevents sideway and locks the partition in position. All important advantages that provide a better folding partition at a lower ultimate cost.



A photo of the first R-W Aluminum partition installed in the West Senior High School of Aurora, Illinois... Architects, Childs and Smith, Chicago, Illinois. Installation consists of 27 sections... each 3" thick, 4' wide and 25' high... unit is powered by a deluxe R-W Electric Operator... activated by a key-switch control.

R-W Aluminum partitions are rigid, light in weight sandwich-type structures consisting of extruded aluminum frames and a resin impregnated honeycomb core to which is bonded the hard board backing and embossed aluminum facings.

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FOLDING  
PARTITIONS AND  
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WARDROBES FOR  
OVER 75 YEARS

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School Equipment Division



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**safe team play  
starts with...**

**fibreless**

**PECSOLITE gear**

**3.7 TIMES GREATER SHOCK ABSORPTION  
... 20 TIMES LESS REBOUND  
THAN ORDINARY PADS**

... unmatched in its ability to absorb and diffuse blows ... lessens possible injury to wearer and opponent alike

- Less Cost Per Service Hour: new coating formula provides surface strength of 2400 P. S. I.
- New Nylon Coil Stitching Reinforcement: for added durability and even greater service life
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- Will Not Shrink
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- Lightweight:  $\frac{1}{4}$  to  $\frac{1}{2}$  less weight than ordinary pads
- Sanitary: cannot transmit infections
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See Your Pecsolite Dealer for the complete line of Pecsolite shoulder pads, hip pads, thigh guards, knee pads, helmet liners and accessories ... or write Pecsolite for brochure and prices.

**PECSOLITE EQUIPMENT CO. Third and Market Sts. Sunbury, Pa.**

## SPEED CLEAT

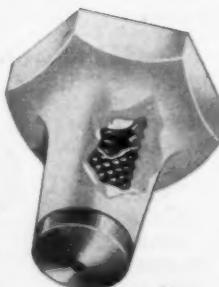
### TOUGH LIGHTWEIGHT NYLON

Coaches—Don't burden your players with extra weight—equip your squad with the lightest cleat available for rocket action. Brilliant color selection for quick identification between various units of your squad—Distinguish between game shoes and practice shoes.

- FULL COLOR RANGE—RED, GOLD, WHITE (NATURAL)
- ONLY NYLON CLEAT WITH LOCK-TIGHT TEETH
- LOCKED-IN STEEL TIP AND ALUMINUM THREAD FOR LIGHTNESS

See Your Dealer or Write Direct

**OHIO ATHLETIC SPECIALTY CO.  
133 BUCKEYE ST. ELYRIA, OHIO**



heated locker rooms, showers, toilet facilities, and a room for training equipment. A separate dressing room should be available for officials.

Space should also be provided to store athletic and maintenance equipment and movable seating.

All stadium events which attract large crowds tax rest-room facilities. Thus ample rest rooms to meet the peak load should be evenly distributed throughout the structure and be readily accessible from any location.

Fixtures in the rest rooms should be located in the order of their logical use: from entrance to toilets and urinals to lavatories, to dryers or towels, to mirrors, to exits.

#### TICKET OFFICES

The number, distribution, and types of ticket offices are influenced by so many factors that specific patterns and designs have been purposely avoided here. Ticket booths which are part of the stadium structure should be prominently and conveniently located and distributed near major entrances if the outer stadium wall is not rendered inaccessible by a surrounding fence.

Under any circumstances, the ticket services actually housed within the stadium walls should be supplemented by mobile or fixed ticket booths easily accessible and widely distributed around the outside of the stadium enclosure.

Concessions have come to be considered a necessary service in relation to public gatherings. Thus appropriate space and equipment for the various concessions should be provided and an adequate number of concession stations should be distributed within the stadium structure.

Provision should be made for a first-aid room. The space for such a room should be large enough to accommodate a cot, table, and necessary supplies, including an outside telephone. Public telephones should also be accessible within the stadium enclosure.

#### IOWA'S VARSITY ATHLETES

IOWA reports that most boys in its high schools participate in interscholastic sports; that the larger the school, the more varied its varsity program; and that sports such as track and wrestling offer the greatest possibilities for expansion. The Iowa study revealed that 52.3% of the 28,551 students in the 705 schools covered, engage in interscholastic sports. Quite impressive, when you remember that each school has only one gym and one athletic field.

## Swimming Pool Procedures

(Continued from page 67)

### B. Boys:

- (a) Get your suit and towel from checkout window.
- (b) Lock all your clothes, valuables, and jewelry in your long lockers.
- (c) Leave your suit in the pool drying room.
- (d) Enter the shower room and take a complete soap shower.
- (e) Return to the drying room and put on your suit.
- (f) Enter the pool through the pool door.

### 7. In the Pool:

#### Class Instruction:

A. Upon entering the pool area, sit on the benches as indicated by the instructor.

#### B. Roll call.

C. Normally, each class period will consist of approximately 20 minutes of instruction and 10 minutes of free swimming.

D. During class instruction, there will be absolutely no talking; during free swim, noise should be kept at a minimum.

E. When you hear a whistle, give your immediate attention to the instructor.

F. Designated authority has been given to Junior Instructors and they should be treated with the same consideration as the teachers.

G. A long loud whistle will be the signal for leaving the pool. Leave water immediately and line up along the wall and follow the instructor's directions.

### 8. Leaving the Pool:

A. No one will leave the pool area without the teacher's permission.

B. As you enter the shower room remove your suit.

C. Wring out your suit and put it in the laundry hamper provided.

D. Put your towel in hamper.

E. Take a rinse shower.

F. Dry completely in the drying room.

G. Go to your locker and dress.

H. Lock your small locker.

I. Do not leave the locker room until the dismissal bell rings.

J. Read and heed the sanitary code as posted on the locker bulletin board.

(Bibliographical sources include the American Red Cross, Beach and Pool, The Athletic Institute, Richard L. Brown, Thomas K. Cureton, Leslie W. Irwin, F. W. Luehring, Donald W. Neilson, and John E. Nixon.)



For Trouble-free Protection  
at Low Cost . . .

# Master

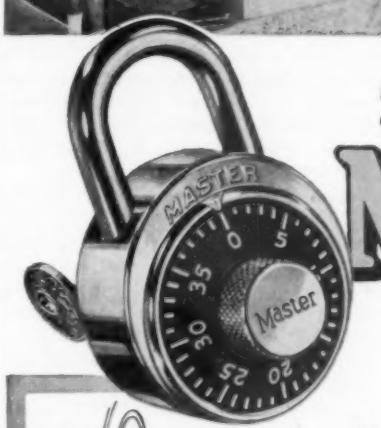
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## COMBINATION PADLOCK

- DURABLE
- KEY CONTROLLED
- STAINLESS STEEL CASE CONSTRUCTION

Master Combination Padlocks give you 2-way budget relief — low initial cost and long-lasting, trouble-free service! Double wall construction . . . hardened steel locking latch . . . automatic re-locking mechanism . . . and other security features.

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MASTER NO. 1500  
Same design and construction as No. 1525 . . . but without key control. Full two-year guarantee.

## Master Padlocks

NO. 1 IN AMERICA'S SCHOOLS

Master Lock Company, Milwaukee 45, Wis.  
World's Largest Padlock Manufacturer

### Sensational Equipment by Prep Coach Inventor

#### • "LAMARWAY" DELUXE UNIFORM HANGERS

Made of strip steel, built to last indefinitely . . . sanitary method of hanging and drying uniforms . . . give your football players a break—permit them to wear dry uniforms daily . . . thousands in use . . . a real equipment saver.

#### • "LAMARWAY" GROUND PLUGS . . . for All Types of Fields

Simple and accurate method of remarking fields . . . for football—where yard lines intersect side lines, drill holes to exact depth with special ground auger, then drive in plugs . . . will stay put all year . . . makes remarking always accurate.

#### • "LAMARWAY" TRACK or SWIMMING SCORE BOOK

The book all coaches are talking about. Brutus Hamilton, 1952 Olympic Coach says: "The Lamarway Track Score Book is a most satisfactory scoring device. It incorporates everything that's essential for accurate and quick scoring. This is a distinct step forward in the field of athletic publications." \$2 postpaid.

Send for literature:

UNIVERSITY ATHLETIC EQUIPMENT  
1820 HOPKINS STREET, BERKELEY 7, CALIF.

# Junior High Gym-Pool Plant

(Continued from page 10)

the stage are two physical education offices with showers and toilets, and the gym ventilating system. Under the stage is full storage space.

The ceiling has an aluminum acoustical treatment, with 77 lamps and two batteries of spots furnishing superlative lighting. The north wall of the gym encloses two combination ticket and storage rooms and two lobby entrances.

Adjacent locked storage is available for boys and girls physical education, intramural and varsity sports equipment, athletic supplies, janitorial supplies, and other departmental needs.

The stage can be used as a supplementary teaching station for table tennis, trampolining, tumbling, wrestling, weight lifting, and some forms of corrective activity.

A public address system can be used at various places. The hard wood, 12" flooring is steel-bound and floats on a tar base. Tile inserts are laid under all drinking fountains so that water cannot reach the maple floor.

**Swimming Pool:** Michigan weather allows an average of about 72 days suitable for outdoor swimming. As all physical education facilities in the school were designed for year-round use, an attempt was made to create as much of an outdoor swimming atmosphere in the summer as possible.

Thus an indoor-outdoor pool with patio was constructed. The roof is constructed of reinforced concrete and is entirely self-supporting. Considered indestructible, it features a very large and desirable overhang.

The pool building is 102' by 64' by 36' in the center. The water area is 75' by 30' and begins at 3' deep level at the shallow end, reaches 4'6" at the 40' mark, and drops to a depth of 9' for two one-meter diving boards at the deep end. There is rollaway seating to provide for 350 spectators.

The pool has underwater windows, lighting, and speakers. Provided overhead are speakers, lighting, acoustical (aluminum) ceiling,

and a recessed wall-top area that can be used for mounting special spot and black light for water exhibitions. Speakers mounted in the patio can be used also for playfield communication.

Storage space for lane markers, kickboards, and other pool supplies is located under the main 21' side deck of the pool. Stacking 12' doors can be opened just a few inches or for most of the glassed area. The pool is heated by forced air and radiant wall and deck heat.

The doors are double and heat is provided between them and along the inside pool side adjacent to the glassed area. Gutters are recessed and the diatomaceous earth filter is used.

The pool patio (48' x 102') has trick sidewalls and concrete flooring with cut-outs for small trees and shrubbery. When completed, it will contain seating for sun tanning and quiet games. Knock-down bleachers can be erected to seat 600 extra spectators during summer water shows. Locked gates at the rear of the patio allow for complete control of swimming and spectator traffic.

The addition of the patio to the pool has enabled us to double the pool load's summer attendance be-

## GYM MATS • WRESTLING MATS NOW! Stop Impact Injuries in the Gymnasium . . .

**with**  
**Ensolite®**  
**MATS**

COVERED WITH NEW PEC-10 COATING

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APPROVED BY NCAA  
for all wrestling meets

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**PROTECTION EQUIPMENT COMPANY**

ORIGINATORS OF PLASTIC COATED ALL FOAM MATS AND FIBRELESS ALL FOAM SHOULDER PADS

HAAS AVENUE  
SUNBURY, PA.

cause of the spread between the water and the sun.

**Playfield:** As the three-year junior high school outdoor facilities were planned to accommodate both school use and as much out-of-school activity as possible, some multiple use of areas had to be made. This, however, has provided for very economical use of the 25 acres available for the school site.

Best use of the game area, it is believed, has been made by installing the following activity units: four softball diamonds legal for Little League baseball; two varsity diamonds legal for Babe Ruth play; four official hard-surface tennis courts; one hard surface basketball court; one two-foot crowned football field; one cinder track straight-away; three jumping pits; two cinder runways; a football practice field; a girls hockey area; and space for archery, horseshoes, and group games.

The entire area is contained by special fencing provided for the tennis and basketball courts and the varsity football field. Concrete curbing is used for the track straight-away, runways, and jumping pits.

All diamonds have backstops; the football field has permanent seating for 500; and drinking fountains have been installed to serve the area. The entire playfield has a forced under-water sprinkling system which provides for complete coverage when needed.

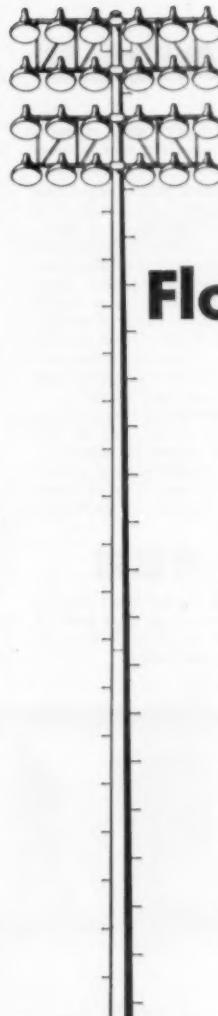
**Locker Rooms:** The locker area, 60' x 75', is at ground level between the gym and pool. It's reached by the main corridor from the school and allows easy access to the gym, pool, and playfield.

Equal space and facilities are shared by the boys and girls. Each unit has the basket and cage system (500 baskets each) which allows for 272 empty, full-sized lockers for adult recreational use.

### Filling YOUR Seating Needs . . .

to your best advantage. That's our job. We enjoy it. And we have the Earlville line, to do it well.

Want help in planning, with no obligation? Write Dept. A . . .



## MONOTUBE Floodlighting Poles

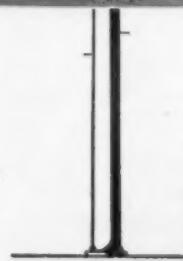
*proved by experience*

and acceptance

If you are planning the development or modernization of sports, recreational, commercial or industrial areas, Monotube floodlighting poles will help you make full use of nighttime hours.

Available in heights up to 100 feet, Union Metal Monotube poles are designed, engineered and produced by a company specializing in pole manufacture for more than half a century.

Monotubes offer attractive appearance, exceptional strength, minimum maintenance, quick and easy installation . . . and no guying required.

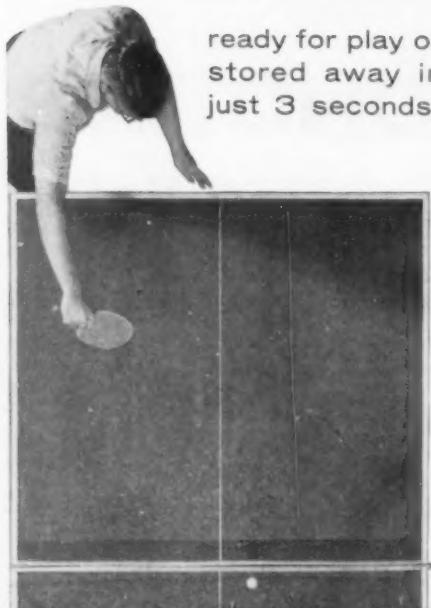


To learn more about Monotube floodlighting poles, steel or aluminum, write to The Union Metal Manufacturing Co., Canton 5, Ohio for catalog information. In Canada: The Union Metal Manufacturing Company of Canada, Limited, Brampton, Ontario.

**UNION METAL**  
*Monotube Floodlighting Poles*

amazing Sico...

## TUCK-AWAY TABLE



ready for play or  
stored away in  
just 3 seconds!

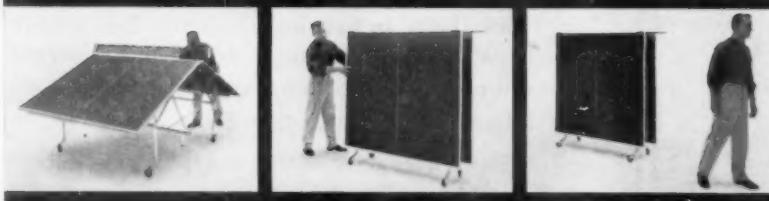
Now, convert any space  
to a recreation room and  
back again in seconds.

Now, even though you have limited space, you can provide table tennis for your students. The Sico TUCK-AWAY rolls, unfolds and folds so quickly and easily. Can even be handled by a child. (Will not tip in folded or unfolded position.) This means that any room (gymnasium, hallway, ordinary room) can become a game room.

The table is regulation size, yet stores in a  $16\frac{1}{4} \times 60"$  area. Net stays in position. Rugged construction guaranteed 10 years. Can be used as a conference or banquet table too.

### FREE

Illustrated folder describes all the outstanding features of this amazing table. Write today for your copy.



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All metal SNAP-ON Basketball Nets. Guaranteed 3 yrs. Used outdoors or indoors. No instruction needed to install, just snap into loops.

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LOU-PEL Mfg., 32 Monroe St., Waterford, Conn.

There are 16 individually controlled heads in the 24' x 18' tiled shower rooms, tiled drying spaces 18' x 15', towel storage and pass-out rooms, and wet and dry toilets. The girls' addition provides a battery of 6 electric hair dryers and one visitors' dressing section.

The boys' section provides for two, and emergency use of a third, visitors' areas. These sections are separated from the general locker room by heavy wire mesh and sliding doors. Thus, it's possible to supply visiting teams separate, secured units for dressing and equipment. The ceilings are acoustically treated, contain recessed lighting, and have four skylights for each section.

There are two entrances from each locker room to the adjoining pool. This allows swimmers to enter the pool through the showers or for instructors to by-pass them. A separate glass-enclosed hallway connects the pool room, gym, and main corridor to provide easy spectator access to all units.

### EQUIPMENT SUPPLIERS

Basket System and Lockers—Lyon Company

Fencing and Backstop—Cyclone Fence

Bleachers—Wayne Iron Works

Apparatus—Medart

Backboards—Narragansett

Portable Backboards—Gibson

Electric Doors—Richards and Wilcox

Public Address System—Dukane

Gymnasium Mats—Patterson

Architects—Eberle M. Smith Assoc.

Two parking lots serve the physical education facilities. The auxiliary lot is located on the east side of the school and supplements the main parking lot which adjoins the gym, locker room, and pool. Each lot has a controlled entrance, is lighted for night activity, and is hard-surfaced. Together they provide for about 400 cars.

It's our belief that junior high facilities are just as important as those of the senior high school. In the Derby school, therefore, we've attempted to meet the needs of both this age group and a year-round community program.

In designing and building these physical education units, a distinct effort was made to conform to the philosophy of our board of education—that the junior high program should emphasize the intramural and local type of athletic competition and should permit year-round recreational use.

## Montana State's Physical Ed Center

(Continued from page 56)

pull in outside air and blend it. To get rid of the old air, there are nine exhaust units in the center area.

The amount of air-intake is entirely dependent on the size of the crowd and is governed automatically. It's possible to change the air in the entire arena every 20 minutes—and every 2 minutes in the locker rooms.

A semi-low level sound system with 52 speakers can control the sound required in any area of the building. An elaborate electric lighting system provides varying intensities and area of light, as the occasion demands.

A unique thing about the dressing room is that it has no lockers. A player coming to practice goes to the equipment room and checks out his whites. He then goes to the cage several feet away (see page 56) and checks out his regular football or basketball togs from the student manager. At the end of practice, he checks in his regular gear at the cage and returns all his whites to the equipment man.

With an eye not only to the present but to future needs as well, microphone outlets are spaced at frequent intervals, assuring coverage of any type of event. TV booths and camera platforms are located on one side of the arena, with radio and newspaper reporter areas on the opposite side.

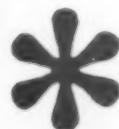
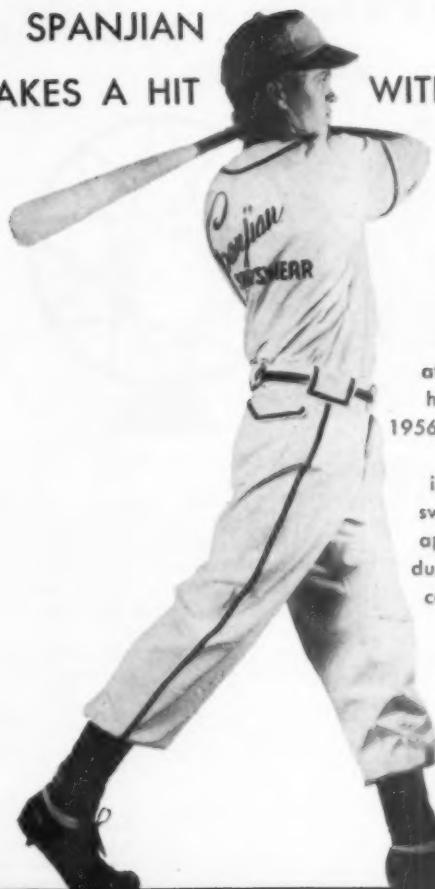
Planned for two stages of construction, the building will also contain, when funds permit, a swimming pool with a spectator area, dressing rooms, additional offices, an auxiliary basketball gym, handball courts, a wrestling room, and a gymnastic room.

Overall cost of construction, including equipment and fees, was approximately \$1,600,000, which is being paid entirely from student funds and receipts from activities held under the dome.

The main arena cost \$9.90 per square foot, while the overall building cost was \$11.10 per square foot—an amount considerably lower than for other types of construction in the area.

Although the building first saw service early last year, formal ceremonies dedicating the center to the State of Montana were held December 4.

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# COACHES' CORNER



Please send all contributions to this column to Scholastic Coach, Coaches' Corner Dept., 33 West 42 St., New York 36, N. Y.

**BASKETBALL** fans stopped worrying about the Russians' satellite as soon as they learned that the gadget was about the size of a basketball. As one real hoop fan puts it, "We'll have one up there as soon as the season starts, the way kids shoot nowadays."

**Yankee coach Charlie Keller** had just entered the clubhouse when Yogi Berra strolled over. "Remember the first time you ever saw me, Charlie?" asked Yogi.

"Certainly," said Charlie. "You were just getting out of the Navy and were wearing a sailor suit."

"When you saw me in a sailor suit, I betcha never thought I looked like a ballplayer," grinned Berra.

"Look like a ballplayer?" snapped the clubhouse man. "You didn't even look like a sailor!"

**In pro basketball**, a player who wants to tie a shoelace must call a time-out or do it while play continues. Most of the time the player will fake an injury to get an official time-out.

One evening a player began limping. "I'm hurt! I'm hurt!" he moaned to Referee Norm Drucker. The ref instantly stopped the action and the player, grimacing with faked pain, knelt and began lacing his shoe.

Drucker watched with icy tolerance. "Mister," he said, "if you finish the last loop in that bow, it's a technical."

**The head coach** and his assistant were a taciturn pair who hated to make speeches. At a dinner one evening, they were scheduled to speak unbeknownst to either. The toastmaster called on Coach Hoxie.

"There must be some mistake," stammered Hoxie. "Coach Byrne is the one who does the talking."

The toastmaster turned to Byrne. The latter stood up and said, "Hoxie just made the speech."

**The little backcourt** playmaker, attempting to cut down the middle, heard something snap. Before he could reach down, his pants suddenly dropped to his ankles. And there he stood in the middle of the floor, *très deshabillé*.

"Poor guy," murmured one of the boys in the press box, "he reminds me of a newly born baby."

"How come?" asked a nearby reporter.

"He's small, he's red, and he needs help."

**The fabulous fighter**, Ray Robinson, is an odd paradox. One minute after putting the financial screws on a promoter, firing a couple of managers, or trying to milk nickels out of a block of concrete, he'll send up a cloud of piety about how much he owes the Lord, how the good Lord always is watching over him, etc. This was particularly true before his fight with Basilio.

"The way Ray was talking," a reporter said, "I figured he had gone into business with the Lord."

"If he has," remarked a cynical

manager, "you can bet that the Lord will be only vice president of the company."

**The battle of words** among Ken Loeffler, the officials, and Everett Case after North Carolina State nosed out LaSalle, 76-74, at Raleigh, N.C., back in 1951, made newspaper headlines for days. Then the controversy apparently died.

The following summer Loeffler and Case were flying across the Atlantic to run a clinic in Germany, when the pilot announced that the plane would be unable to land at Keflavik, Iceland, and would have to proceed to Scotland. Case, sleeping, was jolted awake by Loeffler.

"Everett," roared the fierce LaSalle coach, "we can't land at Keflavik. We're going on to Scotland and may not make it. Quick, before we go down, admit those officials at Raleigh were terrible!"

**Of his coaching career** in the professional ranks, Ken Loeffler says it was like crowding 15 years of coaching into three years.

"I've been asked why I left the pros," he declares. "Well, there were two contributing factors. One was the terrific toll the game takes on your health, and the other was George Mikan."

**A Pittsburgh fan** fighting his way into Pitt Stadium for the Oklahoma-Pittsburgh game charged into three fellows wearing jackets bearing the letters, "OU". Having read all about those fabulous Oklahoma oil men, the Pitt fan yelled, "I'll bet you two oil wells on the game."

One of the Oklahoma men gave him a bored look, then slowly went through each of his pockets. "Sorry," he finally drawled, "but I haven't any small change on me."

**Gonzaga U.'s importation** of 7 ft. 3 1/2 in. Jean Claude Lefebvre from France reminds us of the football coach who discovered a titanic 250-lb. youth in the wilds of Argentina. He brought him home and registered him at the university, getting him a special tutor for English.

About a week later the coach looked up the kid and asked him how he was getting along. "I know the English good," the boy replied. "I can even say 'Come here' and the person will understand."

"But suppose you want a person to go there," replied the coach. "What do you do?"

The wild bull pondered a moment. "Well," he finally answered, "I go over there and then say, 'Come here!'"

**The rough, tough tackle** came running off the field. "What's the matter with you?" exclaimed the coach.

"The ref just threw me out of the game," he said.

"What for?"

"I dunno."

So the coach, the next time-out,

## FREE LISTING FOR SPRING CLINICS!

RUNNING a clinic or coaching school this coming February, March or April? **Scholastic Coach** will be happy to carry the essential details in a special pre-summer Coaching School Directory. Send in the details—name of school, location, date, name of director and his address, courses, staff, and tuition—and we'll give your school a listing. Address: **Scholastic Coach**, c/o Coaching Clinic, 33 West 42 St., New York 36, N. Y.

beckoned to the official. "What did you toss out Zippo for?" he asked.

"Because I caught him choking the opposing quarterback," the official snapped.

The coach was nonplussed. But just for a moment. "Ah, you didn't have to get mad," he grinned. "The kid is just a practical choker."

*When those New Jersey* high school grid powers get together, it's every man for himself! They just love to clobber one another's winning streaks. Look what happened the past season:

Memorial H. S., of West New York, which had a 41-game streak broken earlier in the season, licked St. Peter's Prep, of Jersey City, on a 73-yard run in the final 90 seconds—marking the seventh time in the last 13 years they ruined unbeaten seasons for the Petrels.

Clifton H. S. ended Montclair H. S.'s 37-game streak—a real turnaround, since Montclair marred Clifton's unbeaten slate in five of the last ten seasons.

The following week, Clifton had its unblemished record marred by Bloomfield H. S. And on the final Saturday of the season, Bloomfield's dream of an unbeaten year was shattered by Montclair!

*Coach Carl Bellamy* of Grandview, Wash., had a real man-sized "headache" last season. Just before the season started, he sent us an S.O.S. to wit:

"I'm in dire need of a size 8½ helmet for one of my 8th graders. The boy is 13, stands 6-2, and weighs 175. His head measures 25½ inches in circumference, and I can't get a big enough helmet for him. Last year I improvised one from three sponge rubber knee pads, a jock strap, and some tape. Can you help me on this?"

We really tried, but couldn't come through for the coach. We contacted one of the nation's largest equipment houses, who informed us that neither their plastic shells nor their leather jobs came in that size (8½).

The poor kid must have played the season with his head swathed in knee pads and jock straps.

*Upon returning home* after making his first after-dinner speech, the coach was accosted by his ever-loving spouse. "How was your talk tonight, dear?" she asked.

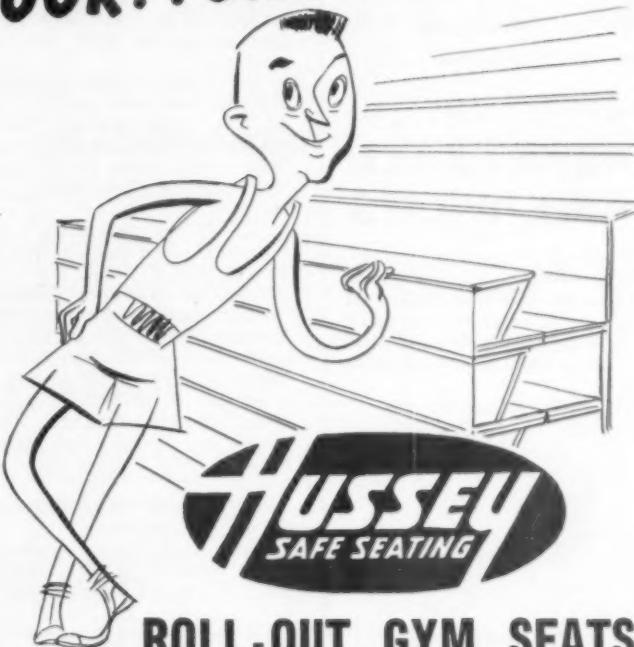
"Which one?" groaned the coach. "The one I was going to give? The one I did give? Or the one I delivered so brilliantly to myself on the way home?"

*Guards are defined* as fullbacks with their brains knocked out. And this pro guard fitted the description to a T. One day he was knocked cold and had to be sent to the hospital. A few days later, a reporter asked the coach, "Did old Jim come out okay?"

"No," replied the coach, "he didn't come out all right. He's back just the way he used to be."

(Concluded on next page)

# LOOK.. ONE HAND!



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Every Gym Master has—12 points of support—more than any other trampoline—with NO structure under the performing area. Every Gym Master has—Fast-fold action. Legs and rails fold in one easy operation on non-failing, non-projecting streamlined hinges and pressure-lube leg bearings. Less than 6'3" high when folded on roller stand, rolls easily through any standard doorway.

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These Cards are sold in sets. Each set consists of one card for each of your events plus a Summary Filing Folder for recording results and other data pertinent to the meet.

Start a permanent record system today by ordering one set for each of your meets.

90c per Set

CARL H. OLSON  
Box 567 Patchogue, N.Y.

1957 was an awfully bumpy year for Coach Ed Doherty of Arizona. But he held on tightly to his sense of humor. At a Booster Club luncheon, he was asked rather pointedly what he planned to do after retiring from coaching.

"I'm going to tuck a football under my arm and head south of the border," he wryly replied. "When I get far enough south for someone to ask, 'What's that thing you're carrying?', that's where I'm going to settle down!"

Another coach who had it real rough in 1957 was Acting-Coach Bob Hicks of Indiana. The poor Hoosiers were walloped by some astronomical scores. Against Minnesota, an Indiana lineman was shaken up and removed from the game. A bit groggy, he was asked the usual simple questions to determine his condition. One such query was, "What's the score of the game?", then 7-0 in favor of Minnesota.

"We're three touchdowns ahead," replied the lineman.

Coach Hicks instantly turned to the bench. "Please," he implored, "somebody hit me on the head, too!"

Pressure-plagued though he is, Michigan State's Duffy Daugherty always has a witty winner on the tip of his tongue. Before last season's homecoming game against Illinois, he claims he got this wire from an alumnus:

"Remember, Coach, we're all behind you—win or tie."

## Mercury Vapor

(Continued from page 42)

quet, horseshoes, volleyball, and archery.

Mercury vapor fixtures also allow you to illuminate school yards and roadways as means of minimizing robberies or vandalism.

Tournament contests and championship play between different schools should still be played under either an incandescent or a mixed system of both incandescent and mercury vapor luminaires. This eliminates the stroboscopic effect of the mercury vapor fixture, enabling a fast game to be played efficiently.

At present, there are few playing fields or recreational areas using mercury vapor floodlights. But this doesn't mean they never will. The use of mercury vapor in the general floodlighting field has grown tremendously, especially in the past two years.

This trend hasn't shown up yet on athletic fields. But since we know that the mercury vapor floodlight has many advantages over its cousin—the incandescent type—we can expect to see more and more mercury.

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Lenses are set in frame of non-corrosive white metal, with elastic head band for players or conventional temples for coaches and officials. Truly they're "tops" for practice or games.

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ASSOCIATION PRESS, 291 B'way, N.Y.C. 7

## "Here Below"

(Continued from page 63)

and looking for the good shot, they simply moved the ball. They practically stopped shooting.

Nevertheless they left the floor on the happy end of a 26 to 23 count.

We were waiting for them in the locker room. If we expected to see any sign of tension, we were doomed to disappointment. The boys were remarkably loose and relaxed. You'd think they had just come in from a scrimmage, rather than a tense pressure-saturated game played in a screaming din.

The only tense person in the narrow locker room was the coach. His face etched with strain, Ramsay made a visible effort to compose himself. He shed his jacket, then sat down on the bench with his boys.

"All right, now," he said, "just relax for a while. You can get a little water if you want it. But not too much. Just rinse your mouth out. Suck on those oranges; later you can have some Coke. That sugar is good for you."

Ramsay quickly checked the personal foul situation and then painstakingly pin-pointed all the mistakes he had observed. He touched upon each man's performance, then delved into the team operation.

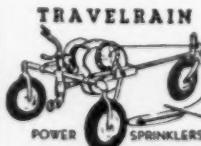
"Look," he said with great perspicacity, "I don't want you to stall when you get the ball (we had been right in our observation!). Let's take our time, but let's look for the good shot. And press them a little more on defense. You're falling back too soon. Now, if we hustled the first half, we're going to hustle twice as much the second half."

The boys then crouched in a tight little circle, whispered a quick

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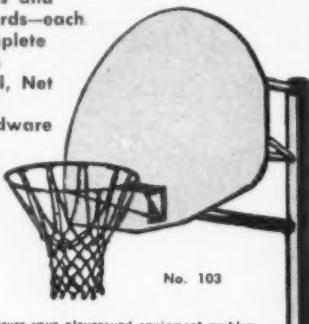
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Please send me 1957-58 SEAL-O-SAN Basketball Coaches Digest. (Free to coaches and school officials. All others please enclose 50¢ handling fee.)

NAME	TITLE
SCHOOL	
ADDRESS	
CITY	STATE

prayer, and trotted out the door while yelping it up.

UNFORTUNATELY, they couldn't get their offense working the way they had the first 16 minutes. They made a few ball-handling errors and Kansas reeled off eight straight points in the first two and a half minutes.

That was the ball game. Try as they might, St. Joe's could never close that five-point gap.

It was simply a case of too much Chamberlain. Aroused by the hounding, clutching and hacking tactics of the posse around him, he began breaking out of the sandwich box and throwing his weight around. He swept the boards, blocked shot after shot, and stuffed a half dozen high lob passes into the basket.

St. Joe's, pressing desperately, were being caught short in its back-court, and Kansas was able to drive in for lay-ups. Cooke kept the Hawks in the game with his long-range bombing, but it wasn't nearly enough.

The final score was 66 to 54, with the big boy scoring 31 points on 11 for 15 shots, and capturing 22 rebounds. St. Joseph's lost nothing in defeat. They had played a magnificent game, to the very limit of their capabilities. Their battle plan had been beautifully conceived and beautifully executed. But they had been up against a superhuman force—Chamberlain.

We came with an open mind and left with a closed one: We're convinced that Chamberlain is the greatest player in the history of the game. We doubt whether anyone can play him man to man—and that includes Bill Russell, Bob Pettit or George Mikan.

The fellow is too big, too strong, too poised, too well-coordinated, too fast, just too too everything. Never have we seen anyone who can make baskets so easily. He doesn't have to shoot (which he can do). With his height, strength, spring, and great timing, he simply stuffs the basket.

And it's a good thing the rules men have disbarred goal tending. It's conceivable that Kansas could "pitch" a shut-out if Chamberlain could tend goal. He can get up high enough to bat away anything heading for the hoop.

Here's a player upon whom the enemy's concentration has been downright terrifying, who's constantly being hacked and hounded, double- and triple-teamed—yet who never fails to dominate every game he plays!

He's great, great, GREAT!

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CATALOG 250 W. SIXTH ST. SAN PEDRO, CALIF.



## Universal Portable Wood and Steel Bleachers

FREE CATALOG

**UNIVERSAL BLEACHER CO.**  
Champaign, Illinois

## Tips on Football Game Movies

(Continued from page 14)

fensively and defensively, and also to judge their personnel. We also study pictures of high school prospects to judge their ability.

**BLANTON COLLIER** (*Kentucky*): I'm a very enthusiastic user of football movies, having employed them extensively with the Cleveland Browns. We grade our movies each week at Kentucky, and feel that it's one of the most important teaching aids we have. I used end-zone movies with the Cleveland Browns for eight years and I'm completely sold on their value. We do a major portion of our grading work with the cinemascopic lens.

**BUD WILKINSON** (*Oklahoma*): We take pictures of our practice scrimmages for the purpose of evaluating our players, and film our games to further our technical knowledge and analyze the effectiveness of our attack.

**EDDIE ERDELATZ** (*Navy*): Our main use of films is to determine our personnel's attributes and shortcomings, and to facilitate our personnel grading system. The best camera position is mid-field at the highest possible level. Color is interesting but not necessary.

**BOB FLORA** (*Iowa*): We've been using cinemascopic for the past two seasons, preferring it to the usual film because of the better view of the entire field of play. In the off-season, the film is used extensively—being broken down in order to chart our offense and defense as well as the opponents'. We put individual plays on reels to show how each play can be blocked against various defenses and how blocking assignments are missed consistently because of poor techniques. I believe color film is much more effective, better to watch and study. However, it's expensive and the delay in getting it processed prohibits our using it.

**BOB BLAIK** (*Miami*): The polaroid camera has become an invaluable part of our film program, being of tremendous use for spotting purposes. With a polaroid camera up in the press box, we're able to get a true picture of the opponents' defense in a matter of minutes. This gives us the exact line-up of the defense, for example—whether the defensive men are playing shoulders up, outside shoulder, inside shoulder, exact depth of defensive backs, etc.—information that ordinarily depends on the coach's memory. In other words, with a picture we eliminate the guesswork. Since we have just one offense and one defense coach in the coaches' box, any assistance we can give them during the heat of a game is of life im-

## Your New Gym Deserves THIS SCOREBOARD



The new MT-250 is worthy of installation in the finest gymnasiums being built today.

Spectators, Players, Coaches and Officials all appreciate the appearance and performance of the Newest board in our line. If you can afford the BEST, then the MT-250 is the board you will want.

Write for Bulletins #20 & 21

## NEVCO SCOREBOARD CO. GREENVILLE, ILLINOIS

BUILDERS OF THE BEST SINCE 1934



### QUALITY Meets ECONOMY . . . in a Performance-Plus Towel!

McArthur Super-Gym and Super-Turk Gym Towels are towels of the highest quality; woven of the best long staple, triple-twisted, two-ply warp yarns. They're long-wearing, good for 350 to 500 launderings. This durability and longer service means lower cost-per-use. They're the best buy in school towels! Write now for complete information on McArthur Towels and the economical McArthur School Towel Plan.

GEO. MCARTHUR & SONS, INC.  
BARABOO, WIS.

NEW YORK STATE REPRESENTATIVE: Vern Volland, 19 Fairchild Drive, Eggertsville 21, N.Y.



## JIM-FLEX GYM MATS

*Guaranteed NEEDLE-FREE 100% SAFE!*

"Jim-Flex" mats are filled with 100% safe, hair layerfelt. Excellent cushioning qualities. Triple knotted tufting with double strong cord. Heavy duty handles. You'll be surprised at the down-right low cost of "Jim-Flex" mats . . . our top quality line!

LOW BUDGET "Standard" mats, filled with high quality, resilient felt . . . 100% safe and needle-free . . . can save you even more money!

Write today for complete information about National mats, including goat hair, new rubberized curled hair, vinyl plastic heat-sealed seamed mat covers, and accessories . . . and "Mat-Hide", the new scientific, tough, smooth-coated covering for mats in ivory, blue, green, red and grey. Also heavy white duck.

\* \* \*

National mats come in all sizes direct-from-factory at LOW, MONEY-SAVING PRICES!

**NATIONAL**  
Sports Company  
364 N. Marquette Street Fond du Lac, Wisconsin

### Mid Season Form All Year-Round



## Pak-A-Way GOLF DRIVING RANGE

- Entire unit can be set up for use or folded against wall in less than 2 minutes by 1 person.
- Two persons can use it at one time.



Have your golf teams ready for spring competition regardless of outside weather . . . the only complete package golf driving range for use in gymnasiums or other rooms or suitable size. Easy to install . . . safe to use—the ball cannot be driven out of it and cannot rebound or ricochet back against the player. When not in use, the entire unit can be rolled up and fastened to top bar, lifting it 10 ft. completely out of reach. Durable and substantially made . . . will not mar surface of floor . . . may be attached to either concrete, brick, block or frame wall. Complete package includes net, backstop, and driving platforms with built-in rubber tees and brush mats . . . shipping weight 260 lbs. Write today for prices.

SINCE 1909 BERLIN CHAPMAN CO.  
BERLIN • WISCONSIN

portance. We paste the polaroid picture on cardboard, mark it, and send it down to the field for a running account of the opponents' defense.

**BERNIE WITUCKI** (*Notre Dame*): I believe audio-visual aids are an absolute necessity. It's impossible for the human eye to apprehend all the mistakes made on the practice and game field. The films permit us to run the action back and forth as many times as necessary to correct even the most minute details. It very definitely assists us in that the boy can visualize what we're talking about.

**CHARLIE CALDWELL** (*Princeton*): We photograph every play of both freshmen and varsity contests, and we use these movies for constructive criticism and analysis of game strategy.

**BOB DEVANEY** (*Wyoming*): We find films invaluable, since they give us a true picture of what happens in a ball game or scrimmage. Many times a coach is only able to watch a boy for a few plays, and thus gets a misconception of his over-all performance in the scrimmage. Because of this, many poor evaluations of players are made. We feel that we don't have the right to judge a boy until we've studied the pictures and had an overall summary of his performance.

**BILL DOVELL** (*Maryland*): We analyze all our films and make up a chart on exactly what happened in each game, and then compile a 10-game summary. From this we select our offense and defense for the following year, selecting those plays and defenses which held up best for us the past season.

**VIC ROWEN** (*San Francisco State*): We use our game film to determine the following: (1) What our offense looked like; (2) mistakes made; (3) notes on personnel; (4) check on our rule blocking. Defensively, we use the film: (1) to see how effective our defense was; (2) whether this defense can be used effectively next year; and (3) notes on our defensive personnel.

**CHARLIE WALLER** (*Clemson*): An intelligent study of game films is one of the most efficient devices available to football coaches. A complete breakdown of the offensive and defensive plays in chart form is the most helpful method extant of scouting your own team as well as the opponents.

**AMOS ALONZO STAGG**: I guess I'm about the only college coach who never used movies in coaching, having coached so many years during the period when it was considered un-sportsmanlike to use movies of one's opponents. Movies are now used almost universally by all colleges and coaches spend hours studying them.

**WEBB EWBACK** (*Baltimore Colts*): We take two sets of movies, both from the top and middle of the stadium. We formerly shot our games from the end zone but dropped this idea when the



## Behrens

Portable Water Bubbler  
... for All Sports

Recommended by Health Authorities and Coaches • Carries cool, safe drinking water anywhere • Streamlined Stainless Steel tank • Rubber tired wheels for easy rolling • Two modern sanitary push-button fountains for steady pressurized water flow. Easy to fill, ice, clean. Five gallon capacity.

**Behrens MFG. CO. Inc.**  
WAUKESHA 4,  
BADINGER ROAD, WISCONSIN



*joyfro*

BASKETBALL  
STEEL CHAIN  
NETS

3 Years Guaranteed  
outdoors or indoors

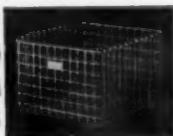
Also Featuring Jayfro's Custom Built  
✓ NYLON BASKETBALL NETS & BALL CARRIERS  
✓ ALUMINUM MULTI-PURPOSE STANDARDS  
✓ TETHERBALL POLES & PADDLE SETS  
✓ ALUMINUM SHUFFLEBOARD SETS  
• Send for Free Catalog •

**JAYFRO ATHLETIC SUPPLY CO.**  
Dept. S, Box 1065, NEW LONDON, CONN.

## LOCKER BASKETS

AND

## SPACE SAVING UNIFORM HANGERS



All welded steel wire.  
Molten Metal dipped (tin alloy) after fabrication to insure maximum corrosion resistance. Available in sizes to meet your locker room needs. Write for descriptive literature and school prices.

**AMERICAN**  
WIRE FORM CORP.  
267-273 Grant Ave.  
Jersey City, New Jersey

scenes on the far end proved inadequate. Our photographer puts each set on four 400-foot reels. The Colt offense and kick returns are placed on two reels and called 1st-half offense and 2nd-half offense. The defense and punt plays are placed on two reels in the same manner. We grade each player on every play. When grading, we use two sets of movies simultaneously. This way we're certain to have all the players show up on each play. After grading, we divide the squad into offensive and defensive groups for corrections. This saves time.

**ED ULINSKY** (*Cleveland Browns*): We've been taking black-and-white movies because the sun is usually down in the latter part of the game and color movies don't work out as well. Last year we used cinemascope for the first time, though most pro clubs had already been doing so. We use a film viewer because it can stop, reverse, and advance the film so much faster than a projector. As a result, we can make a better study in a much shorter time.

**FRANKIE ALBERT** (*San Francisco 49ers*): We rely on game movies 100%. We're no longer sending a coach or scout to cover future opponents, as the NFL teams have a working agreement among themselves regarding the trading of films. The 49ers have used cinemascope for three years, since this type of filming gives us excellent coverage of every player. Where cinemascopic isn't used, the film coverage is inadequate—as all 22 players cannot be viewed all the time.

Now let's highlight the outstanding recommendations given in these capsule reviews, as well as other useful tips for your football film program.

#### Uses of Football Movies:

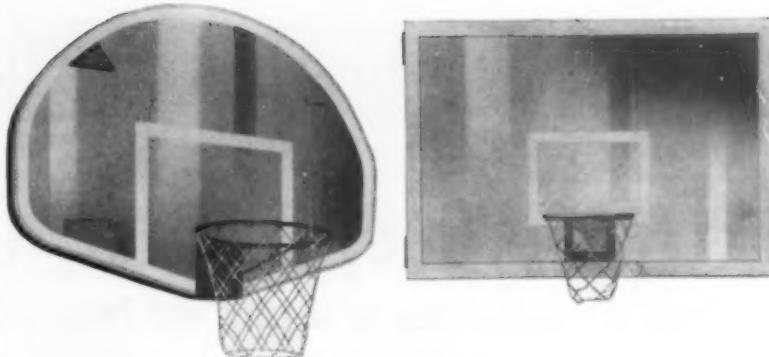
1. A means of studying individual techniques.
2. To study and evaluate team offensive and defensive play.
3. A statistical study of the game.
4. An aid in scouting for the game next year.
5. A training medium for the coaching staff.
6. Public relations for school, civic, community, and alumni groups.
7. A history of the game—highlights from many years edited into one film of the series.
8. An aid to assist deserving players obtain consideration from colleges.
9. A check on rating officials.

#### Choosing a Photographer:

1. Best to employ an experienced photographer from the community.
2. He should work out a technique satisfactory to the coach.
3. In some cases, persons with photographic interests can be trained.

#### Equipment Requirements:

1. A versatile motion picture camera is a must. The camera should work from 24 to 32 frames per second.
2. A sturdy tripod for camera support.
3. A motor-driven camera eliminates



## Stronger 3 Ways

1. Extra-heavy angle iron frame provides rigid support without cross bracing.
2. Back plate larger than face plate; distributes shock and strain over larger area.
3. Face plate bolts spaced 8" apart; heat-treated glass retains full strength.

## NURRE All-Glass BANKS

Fully approved by the National Basketball Committee for high school, college and professional games. Surprisingly low in cost, easy to install . . . sure to provide increased seating capacity, livelier rebounds, a better game for spectators and players alike. And, all Nurre Banks are positively guaranteed against breakage in normal use.

In addition to the fan-shaped and rectangular banks shown above, Nurre offers a low-cost rectangular model with a 12" wood panel across the bottom. Send for free illustrated booklet today. And remember to order your goals from Nurre, too, stating type of bank—all-glass or with wood strip.

Dept. SC-18, Bloomington, Indiana  
Makers of Glass Banks Since 1924

**NEW!**

**- BREAKS THE PRICE BARRIER !**

**SCORE-KING**

**MAGNETIC SCOREBOARD**

**HOME** **VISITORS**

**45** **43**

SCORE-KING No. SK-50  
Includes:  
24" x 36" Steel Scoreboard  
40 8" Numerals (4 sets 0-9)  
1 Magnetic Chalk Holder  
1 Magnetic Eraser  
1 Steel Number Case

**Price Complete:**  
**\$49.50**

**★ FAST — ACCURATE — PORTABLE**

- ★ Flash-Scoring, Professional
- ★ Visible at 300 Feet
- ★ Dependable, No Power Problem
- ★ No Maintenance
- ★ Mechanical Error Proof
- ★ All-Steel, Lightweight
- ★ Hangs — Or Rests on Easel
- ★ Big 8-Inch Numerals with Case
- ★ Set Score-King Anywhere
- ★ Ideal for Scoring — Basketball, Boxing, Wrestling, Football, Field Hockey, Soccer, Ice Hockey and many others.

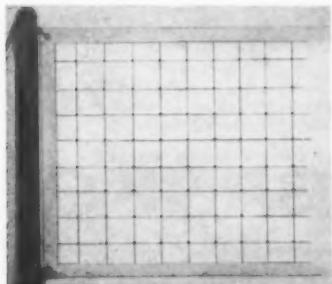
See Your Sporting Goods Dealer or Write To:  
**THE PROGRAM AIDS COMPANY, INC.**  
Dept. SC, 550 FIFTH AVENUE, NEW YORK 36, N. Y.

BIG NEWS IN NETTING FROM **GOLD MEDAL INVINCIBLE**

ANNOUNCING A NEW, IMPROVED

# Linen Volleyball Net

Beats All Competition in Quality and Price



Note how tie strings hold the net in tension.



Tougher, Stretchfree, More Durable! — This new, standard, 32-foot volleyball net is made of fine linen seine twine, and combines linen's big advantages in a net that looks better, lasts longer. It's priced low, too — a more economical net in many ways. Offered in two styles by both of America's two leading lines of sports netting ...

**GOLD MEDAL** Style #LD-3230-VBC (steel cable), and #LD-3230-VB (rope cable).

**INVINCIBLE** Style #LB-3230-VBC (steel cable), and #LB-3230-VB (rope cable).

See Your Nearest Dealer

"A Net for every purpose ... a purpose for every net."

**THE LINEN THREAD CO., INC.**

418 GRAND STREET • PATERSON 12, N. J.

New York Chicago Boston San Francisco Baltimore

## DOWMETAL Crossbars

These triangular hollow bars are the truest, most practical, longest lasting crossbars on the market.

Now more popular than ever

- Official      ● Long Lasting
- Less Sag      ● Uniform      ● Safe

Metal is patented magnesium alloy especially suited to bending.

### WEIGHT AND PRICE

12' (jumping)	2.0 lbs.	\$5.95
14' (jumping)	2.3 lbs.	6.70
16' (vaulting)	2.6 lbs.	7.45
18' (vaulting)	3.0 lbs.	8.20

Transportation charge extra.

- More crossbars sold last year than ever before showing increased popularity.

Write for name of dealer nearest to you

**K. & P. Athletic Co.**

1115 Jerome St.

Midland, Michigan

the necessity of stopping to rewind, as is necessary with a spring-driven motor.

4. A second camera is desirable to follow continuity when first camera is being reloaded.

5. Light meter is a necessity to determine correct exposure.

#### Field Perspective:

1. The coach is interested in elevation so that the details of every play are clearly seen. Angle of 35° or more will give perspective and relative positions of all players.

2. Since few fields are laid out ideally for filming the game, it may be necessary to build a crow's-nest or platform on towers.

3. These should be well-built and sturdy, and provide protection against the elements for camera equipment and photographer.

#### Types of Lenses:

1. From position of camera, the focal length lens required can be estimated.  
2. Experimental tests should be made for the best solution to choice of lens.

3. Distance of camera from the field determines combination of one to three or, rarely, a four-inch lens.

4. Field area to be covered, in most cases, includes line, backs and line-backers, excepting pitch-outs, punts, wide flankers, etc.

#### Types of Film:

Black-and-white film advantages:

1. Less light required.
2. Meets changing light conditions better.
3. More rapid processing service.
4. Less expensive than color film.

#### Problems of Night Games:

1. Illumination intensity not always suitable for photographic purposes.
2. Definite threshold of illumination required. 40 to 80 footcandles limits exposure to f 1.4-f 1.9 lenses.
3. Footcandle meter necessary to determine exposure.
4. High speed reversal film is an asset in filming night games.

#### Projection and Projectors:

1. Coaches prefer to have all rolls assembled on minimum reels to fit the projector (usually 400-foot reels).
2. Proper game sequence preferred, although some coaches will separate the offense from the defense.
3. Types of projector:
  - (a) Good reversing projector a must.
  - (b) Friction clutch better than a mechanical clutch.
  - (c) Rheostat to control projector speed is desirable.
  - (d) Rapid processing service is essential. Local work is improving in quantity and speed.

#### Tips to the Cameraman:

1. Sweep defense back to front.
2. Do not follow the ball in the air, concentrate on player action on the ground.

3. Show officials' signals on all penalties.
4. As much as possible, try to indicate yard line from markers on field.
5. Show scoreboard after each touchdown and at the end of the quarter.
6. Film any rhubarb between players, officials or coaches.
7. Arrive in plenty of time to check equipment.

#### General Hints:

1. Football movies require close cooperation between coach and photographer.
2. Photographer should be aware of coach's requirements and desires in study of plays.
3. Get the whole play. A "late camera", in order to economize on film, is practically worthless.
4. Work out techniques on camera coverage of flankers, kick-offs, punts, etc., as in most of these cases the play is important, not the flight of the ball.
5. It's better to take only part of the game well, rather than skimp on the entire game.
6. If budget is limited, work out agreement with rival coach for each school to photograph a half of the game.
7. Work out time schedule with film lab to get the film back to the coach as soon as possible.

## TRACK PANTS For College & High School



No. 705-CV

Extra light weight Sheen Cotton high count cloth, sanforized color fast. In all popular school and standard athletic colors.

Designed especially for collegiate use, excellent for high school students.

For information on this outstanding garment ask your Sporting Goods dealer or write to the factory address below.

**LAN-MAR Mfg. Co.**  
617 WYANDOTTE ST., KANSAS CITY, MO.

### NEW, PORTABLE NON-ELECTRIC

## WHIRLPOOL BATH

Treat sprains, stiffness, sore muscles and other conditions requiring moist heat and massage. Set up in shower area (tubless or with tub). Recommended by coaches, trainers, doctors. Unconditionally guaranteed.

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| ARNETT, RICHARD W. (43-46)   | <input type="checkbox"/> Data on Rapid Reversal Motion Picture Film                       | <input type="checkbox"/> Aluminum Standards   |
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- Free School Towel Plan

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- Listing of Approved Floor Finishing Products

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- Catalogs on
- Power-Operated Gym Seats
- Basketball Backstops and Scoreboards
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### NADEN (66)

- Electric Scoreboards and Timers
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- Football Catalog

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- Information

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- Therapy Unit
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NAME \_\_\_\_\_

(Principal, coach, athletic director, physical director)

SCHOOL \_\_\_\_\_

ENROLLMENT \_\_\_\_\_

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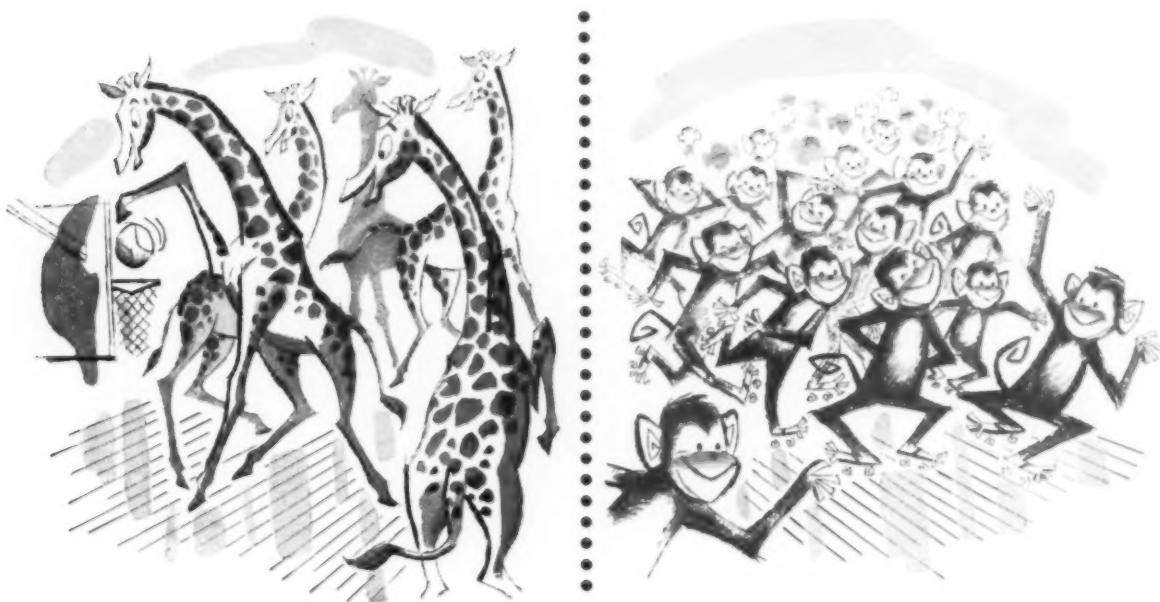
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# Space for 10 or 210?



**they All can have Active fun in your gym**

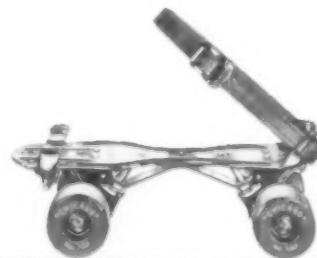
Roller skating is more fun than a barrel of monkeys, and it entertains and exercises more people in less space than any other sport.

Little equipment is needed, little supervision is necessary.

That's why more and more schools are making roller skating a definite part of their physical education and recreation programs.

#### NEW RUBBER-PLASTIC WHEELS ARE KIND TO GYM FLOORS

These new Duryte rubber-plastic wheels outwear others and are guaranteed not to mar or scratch the floors. "Chicago" has a skate designed for any type of floor surface or finish. Write today for free details on roller skating programs and skating equipment.



**"CHICAGO"**  
*Roller Skates*

Chicago Roller Skate Co., 4478-A W. Lake Street, Chicago 4, Ill.

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Longest wearing and toughest  
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